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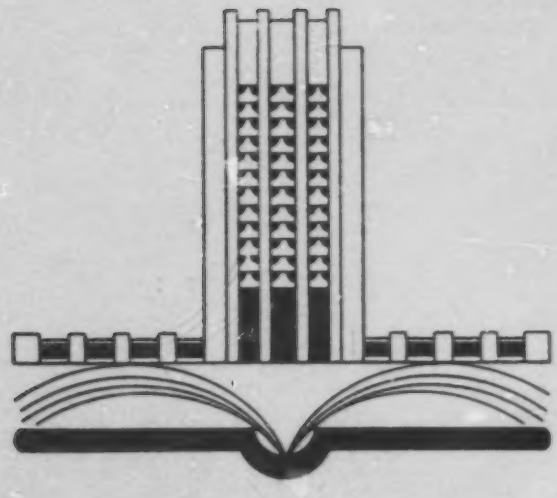

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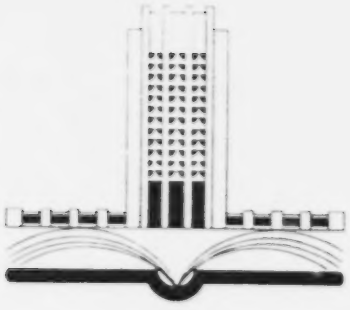

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SOIL ORGANIC MATTER: IMPACTS ON CROP PRODUCTION

SEARCH STRATEGY

1. SS SOIL?(S)ORGANIC(2N)(MATTER OR MATERIAL? ? OR ADD? OR WASTE? ? OR AMEND?)/TI,DE,ID,SH,CC OR (HUMUS OR HUMIC)/TI,DE,ID,SH,CC
2. SS (YIELD? OR PRODUCT? OR ECONOM? OR VALU? OR COST? OR BENEFIT?)/TI,DE,ID,SH,CC
3. SS (PLANT? OR CROP?)(S)(GROW? OR HEALTH? OR DISEASE? OR PEST? OR RESIST? OR TOLERA?)/TI,DE,ID,SH,CC
4. SS (FERTIL?(F)(EFFICIEN? OR EFFECT? OR UPTAKE OR UTILI? OR USE?? OR USING))/TI,DE,ID,SH,CC
5. C11*(18+27+35)
6. L36/1986:1990

Soil Organic Matter: Impacts on Crop Production

1 NAL Call No: S592.7.A1S6
Abiotic soil factors influencing the deleterious effect of atrazine on ungerminated conidia of Cochliobolus sativus.
Isakeit, T.; Lockwood, J.L.
Exeter : Pergamon Press; 1990.
Soil biology and biochemistry v. 22 (1): p. 35-41; 1990. Includes references.

Language: English

Descriptors: Cochliobolus sativus; Soil fungi; Conidia; Viability; Spore germination; Atrazine; Soil treatments; Soil types (textural); Soil pH; Organic matter in soil; Physico-chemical properties of soil; Edaphic factors; Chemical degradation

2 NAL Call No: SB245.B42
Actagro bio-stimulants produce first replicated yield responses to humic substances.
Irion, C.; Brownell, J.R.; Walhood, V.T.; Corkins, J.; Corkins, J.; Jorgensen, G.
Memphis, Tenn. : National Cotton Council; 1988.
Proceedings of the...Beltwide Cotton Production Conference. p. 91-92; 1988. Meeting held January 3-8, 1988, New Orleans, Louisiana. Includes references.

Language: English

Descriptors: Gossypium; Lycopersicon esculentum; Biology; Stimulants; Yield increases; Humic compounds; Application methods

3 NAL Call No: 56.8 SO3
Additive and synergistic effects on plant growth from polymers and organic matter applied to soil simultaneously.
Wallace, A.; Wallace, G.A.
Baltimore, Md. : Williams & Wilkins; 1986 May.
Soil science v. 141 (5): p. 334-342; 1986 May. Includes references.

Language: English

Descriptors: Utah; Lycopersicon esculentum; Triticum aestivum; Growth; Polyacrylamide; Organic matter in soil; Physical properties of soil; Manures; Application methods; Synergism

4 NAL Call No: 56.8 C162
Admixing organic overlays and mineral sublayers of shallow peat soils for improving soil productivity.
Levesque, M.; Mathur, S.P.; Dinel, H.
Ottawa : Agricultural Institute of Canada; 1988 Nov.
Canadian journal of soil science v. 68 (4): p. 775-786; 1988 Nov. Includes references.

Language: English (Summary in French)

Descriptors: Vegetables; Root crops; Grasses; Crop yield; Peat soils; Organic soils; Soil fertility; Soil amendments; Gyttja; Minerals; Organic matter in soil

5 NAL Call No: 79.8 W412
Adsorption of transformation products of atrazine by soil.
Brouwer, W.W.M.; Boesten, J.J.T.I.; Siegers, W.G.
Oxford : Blackwell Scientific Publications; 1990 Apr.
Weed research v. 30 (2): p. 123-128; 1990 Apr. Includes references.

Language: English (Summary in French; German)

Descriptors: Atrazine; Metabolites; Pesticide degradation products; Transformations; Adsorption; Organic matter in soil; Herbicide residues; Topsoil

6 NAL Call No: 385 AG89
Agrochemical evaluation of zeolites of the Tedzam deposit, saturated with phosphorus and potassium [translated title].
Khatsieva, N.V.; Arens, V.Zh; Kuz'mich, L.S.; Kuritsyna, L.I.; Kozhemiachko, V.A.
Moskva : "Nauka"; 1987 Jun.
Agrokhimiia (6): p. 21-29; 1987 Jun. Includes references.

Language: Russian

Descriptors: Zeolites; Podzolic soils; Loam soils; Sandy soils; Fertilizer analysis; Phosphorus; Potassium; Liming; Triticum; Spring wheat; Ph; Humus; Crop yield; Avena sativa; Lolium multiflorum

7 NAL Call No: S605.5.I45 1984
Alternate cropping systems in eastern Nebraska.
Sahs, W.W.
Witzenhausen : Verlagsgruppe Witzenhausen; 1986.
The importance of biological agriculture in a world of diminishing resources : proc of the 5th IFOAM Int Scientific Conference at the Univ of Kassel (Germany), Aug 27-30, 1984 / H. Vogtmann, E. Boehncke, I. Fricke, eds. p. 175-183; 1986. Includes references.

Language: English

Descriptors: Nebraska; Zea mays; Glycine max; Avena sativa; Trifolium; Rotations; Organic farming; Continuous cropping; Alternative farming; Feedlot wastes; Yield response functions; Fertilizer application; Crop yield; Organic matter in soil

8 NAL Call No: 56.8 J822

Amish agriculture and no-till: the hazards of applying the USLE to unusual farms.

Jackson, M.

Ankeny, Iowa : Soil Conservation Society of America; 1988 Nov.

Journal of soil and water conservation v. 43 (6): p. 483-486; 1988 Nov. Includes references.

Language: English

Descriptors: Ohio; Zea mays; Medicago sativa; Traditional farming; Farming systems; No-tillage systems; Erosion; Soil conservation; Physico-chemical properties of soil; Organic matter in soil; Infiltration; Alkaline phosphatase; Bulk density; Crop yield

9 NAL Call No: S7.A755

Analyse des Zusammenhanges von Austauschkapazitat (T-Wert), Kornung, organischer Bodensubstanz und Bodenreaktion fur verbreitete Substrat- und Horizontgruppen [Analysis of the relationship between exchange capacity (T-value), texture, soil organic matter, and soil reaction for widespread substrate and horizon groups].

Thiere, J.; Reiher, W.; Morgenstern, H.

lin : Akademie-Verlag; 1986.

Archiv fur Acker- und Pflanzenbau und Bodenkunde; Archives of agronomy and soil science v. 30 (4): p. 212-218; 1986. Includes references.

Language: German

Descriptors: Soil texture; Organic matter in soil; Soil horizons; Substrates; Exchange capacity

10 NAL Call No: 385 AG89

Application doses and methods of incorporation of straw-free manure in a cropped fallow [translated title].

Sdobnikov, S.S.; Babakov, V.P.

Moskva : "Nauka"; 1987 Apr.

Agrokhimiia (4): p. 61-65; 1987 Apr. Includes references.

Language: Russian

Descriptors: Podzolic soils; Triticum; Winter wheat; Zea mays; Maize silage; Cattle manure; Liquid manures; Incorporation methods; Fallow systems; Humus; Biological activity in soil; Soil reclamation; Physico-chemical properties of soil; Crop yield; Crop mixtures

11 NAL Call No: 56.8 SO3

Association of plutonium with soil organic matter.

Livens, F.R.; Baxter, M.S.; Allen, S.E.

Baltimore, Md. : Williams & Wilkins; 1987 Jul.

Soil science v. 144 (1): p. 24-28; 1987 Jul. Includes references.

Language: English

Descriptors: United Kingdom; Soils; Radioactive pollution; Plutonium; Humic acids; Fulvic acids; Iron; Molecular weight; Soil contamination; Nuclear energy

12 NAL Call No: S7.A755

Auswirkungen landjahrig differenzierter Grundbodenbearbeitung auf den Humus- und Nahrstoffgehalt und den Durchdringungswiderstand eines anlehmigen Sandbodens bei Getreidedaueranbau [Effect of long-term differentiated primary tillage on the humus and nutrient content and penetration resistance of lightly loamed sandy soils under continuous cereal growing].

Herzog, R.

lin : Akademie-Verlag; 1986.

Archiv fur Acker- und Pflanzenbau und Bodenkunde; Archives of agronomy and soil science v. 30 (10): p. 655-660; 1986. Includes references.

Language: German (Summary in English; Russian)

Descriptors: Minimum tillage systems; Humus; Nutrient contents; Sandy loam soils; Penetration; Cereals

13 NAL Call No: S603.A5

Biological activity of the soil in specialized crop rotations for grain production [translated title].

Dubov, IU.G.; Dorogovteva, L.M.; Stepanova, T.A.

Moskva : Agropromizdat; 1987.

Agronomicheskie osnovy spetsializatsii sevooborotov / pod redaktsiei S.A. Vorob'eva i A.M. Chetvernia. p. 72-77; 1987.

Language: Russian

Descriptors: USSR in Europe; Rsfsr; Rotations; Specialization; Biological activity in soil; Cereals; Crop yield; Grain; Fertilizer application; Humus

14 NAL Call No: 464.8 P56
Biological control of Pythium damping-off of cucumbers with Pythium nunn: influence of soil environment and organic amendments.
Paulitz, T.C.; Baker, R.
St. Paul, Minn. : American Phytopathological Society; 1987 Feb.
Phytopathology v. 77 (2): p. 341-346; 1987 Feb. Includes references.

Language: English

Descriptors: Pythium ultimum; Damping off; Pythium; Biological control; Cucumis sativus; Soil amendments

15 NAL Call No: S590.C63
Boron status of Hawaiian soils as measured by B sorption and plant uptake.
Hue, N.V.; Hirunburana, N.; Fox, R.L.
New York, N.Y. : Marcel Dekker; 1988 Apr.
Communications in soil science and plant analysis v. 19 (5): p. 517-528; 1988 Apr. Includes references.

Language: English

Descriptors: Hawaii; Desmodium canum; Soil fertility; Boron; Soil sorption; Plant nutrition; Nutrient uptake; Growth; Organic matter in soil; Allophane; Fertilizer requirement determinatio

16 NAL Call No: QH540.155
Buffering acid precipitates, reducing soil erosion, and reclaiming toxic soil in the advent of global human carrying capacity.
Hartenstein, R.
London : Gordon and Breach Science Publishers; 1986.
International journal of environmental studies v. 27 (3/4): p. 287-300. ill; 1986. Includes 76 references.

Language: English

Descriptors: Erosion; Soil conditioners; Buffers; Acid rain; Organic matter in soil; Soil reclamation; Oligochaeta; Toxic soils; Population pressure; Environmental impact reporting; Crop production

17 NAL Call No: QK938.D4P73
Change in content of humus and nutrient elements in gray-brown soils during development.
Valiev, V.; Sidikov, S.
New York, N.Y. : Allerton Press; 1988.
Problems of desert development (4): p. 81-84; 1988. Translated from Problemy Osvoeniya Pustyn, (4), 1988, p. 76-78. (QK938.D4P7). Includes references.

Language: English

Descriptors: Uzbek SSR; Gossypium hirsutum; Medicago sativa; Parabraunerde; Arid zones; Irrigated soils; Humus; Soil fertility; Nutrient availability; Physico-chemical properties of soil; Soil analysis

18 NAL Call No: 56.8 SO3
Changes in soil chemical properties due to 40 years of fertilization.
Schwab, A.P.; Owensby, C.E.; Kulyingyong, S.
Baltimore, Md. : Williams & Wilkins; 1990 Jan.
Soil science v. 149 (1): p. 35-43; 1990 Jan. Includes references.

Language: English

Descriptors: Kansas; Physico-chemical properties of soil; Trace elements; Soil test values; Soil pH; Soil depth; Lime (mineral); Organic matter in soil; Ammonium nitrate; Superphosphate; Fertilizer application; Duration; Bromus inermis

19 NAL Call No: QH540.E288
Changes in soil nitrogen pools and transformations following forest clearcutting.
Waide, J.B.; Caskey, W.H.; Todd, R.L.; Boring, L.R.
New York, N.Y. : Springer-Verlag; 1988.
Ecological studies : analysis and synthesis v. 66: p. 221-232; 1988. In the series analytic: Forest hydrology and ecology at Coweeta / edited by W.T. Swank and D.A. Crossley, Jr. Proceedings of a symposium held in October 1984, Athens, Georgia.

Language: English

Descriptors: Clearcutting; Soil fertility; Nitrogen; Organic matter in soil; Nitrogen mineralization; Cycling in ecosystems

20 NAL Call No: 4 AM34P
Characteristics of exposed subsoil--at exposure and 23 years later.
Eck, H.V.
Madison, Wis. : American Society of Agronomy; 1987 Nov.
Agronomy journal v. 79 (6): p. 1067-1073; 1987 Nov. Includes references.

Language: English

Descriptors: Texas; Sorghum bicolor; Topsoil; Sub-

soil; Nitrogen; Phosphorus; Organic matter in soil; Particle size distribution; Aggregates; Crop yield; Elymus elongatus

21 NAL Call No: TD930.A32
Chemical and infra-red spectroscopic study of humic and fulvic acids from composted poplar bark.
Roletto, E.; Luda, M.P.
London : Elsevier Applied Science Publishers; 1987.
Biological wastes v. 19 (3): p. 205-214; 1987. Includes references.

Language: English

Descriptors: Bark composts; Poplars; Humic acids; Fulvic acids; Infrared spectroscopy; Physicochemical properties; Composting

22 NAL Call No: 56.9 SO3
Comparison of soil tests for assessing boron toxicity to alfalfa.
Gestring, W.D.; Soltanpour, P.N.
Madison, Wis. : The Society; 1987 Sep.
Soil Science Society of America journal v. 51 (5): p. 1214-1219; 1987 Sep. Includes references.

Language: English

Descriptors: Colorado; Medicago sativa; Boron; Soil testing; Trace element excess; Soil pH; Organic matter in soil; Saturation extract; Soil types; Crop yield; Nutrient removal by plants

Abstract: Three soils from Colorado that varied in texture and organic matter (OM) content were treated with sodium borate (Na2B4O7. 10H2O) at rates of 0, 10, 20, and 40 mg B kg-1 soil. Alfalfa (Medicago sativa, 'Ladak', 'Rambler', 'Riley', and 'Agate') was planted in the soils in the greenhouse and cut twice at the 30% bloom stage. Plant tissue digests and soil extracts (ammonium bicarbonate-diethylenetriaminepentaacetic acid [AB-DTPA], saturation, hot water, and mannitol-CaCl2) were analyzed for B using inductively coupled plasma atomic emission spectroscopy (ICP-AES). Alfalfa yield was significantly (alpha = 0.01) reduced with increased B application rate in the Ascalon sandy loam and Ulysses loam soils, whereas no yield reduction was observed in the Keith silt loam soil (Aridic Argiustoll, Haplustoll, and Argiustoll, respectively). Yield response for the pooled soils were poorly correlated (r2 from 0.23-0.58) to the four soil extractants; however, yield reduction due to B toxicity corresponded to critical plant B levels of 850 mg B kg-1 and 975 mg B kg-1 for the first and second harvests, respectively. The inclusion of NH4OAc-extractable Ca into the regression equation of soil B vs. yield significantly increased the correlation (r2 = 0.77). Multiple linear regression analysis utilizing Mallow's Cp statistic increased the adjusted coefficient of determination (R2) to 0.87 for all of the soil B extractants upon inclusion of soil variables (pH, % clay, OM content) into the equation. Although NH4OAc-extractable Ca did not appear in any of the best subsets, this was probably the result of it's high correlation with percent clay (r2 = 0.98) and OM content (r2 = 0.98).

23 NAL Call No: 450 EU6
Competition between cultivars of fodder kale (Brassica oleracea L.) in yield trials with single-row plots.
Bradshaw, J.E.
Wageningen : Netherlands Study Circle of Plant Breeding; 1986 Jun.
Euphytica v. 35 (2): p. 433-439; 1986 Jun. Includes references.

Language: English

Descriptors: Scotland; Brassica oleracea; Cultivars; Plant breeding; Plant competition; Row spacing; Organic matter in soil; Digestibility; Correlation analysis; Experimental plots; Crop yield

24 NAL Call No: S590.S62
Conservation practices: relation to the management of plant nutrients for crop production.
Follett, R.F.; Gupta, S.C.; Hunt, P.G.
Madison, Wis. : Soil Science Society of America; 1987.
SSSA special publication series (19): p. 19-51. maps; 1987. Paper presented at a Symposium on "Soil Fertility and Organic Matter as Critical Components of Production Systems," December 3, 1985, Chicago, Illinois. Literature review. Includes references.

Language: English

Descriptors: USA; Soil conservation; Tillage; Organic matter in soil; Losses from soil systems; Crop residues

25 NAL Call No: SD397.P55I58 1985
Continuous cropping at New Kent.
Dierauf, T.A.
Auburn, Ala.? : Orders, Dept. of Research Information, Auburn University, [1986?]; 1986.
Proceedings of the International Symposium on

Nursery Management Practices for the Southern Pines, Montgomery, Alabama, August 4-9, 1985 / edited by David B. South. p. 237-243; 1986. Includes references.

Language: English

Descriptors: Virginia; Forest nurseries; Pinus taeda; Seedlings; Continuous cropping; Nursery management; Organic matter in soil; Cover crops

26 NAL Call No: S603.A5

Continuous cropping of main farm crops on irrigated lands of Ukraine [translated title].

Andrusenko, I.I.; Kovalenko, A.M.

Moskva : Agropromizdat; 1987.

Agronomicheskie osnovy spetsializatsii sevooborotov / pod redaktsiei S.A. Vorob'eva i A.M. Chetvernia. p. 101-110; 1987.

Language: Russian

Descriptors: Ukrainian SSR; Irrigated farming; Continuous cropping; Specialized farming; Zea mays; Triticum; Winter wheat; Beta vulgaris; Medicago sativa; Crop yield; Crop quality; Biological activity in soil; Soil toxicity; Soil chemistry; Humus; Organic fertilizers

27 NAL Call No: QH301.A1G4

Control of stem rot disease of rice through organic soil amendments.

Sharma, S.K.; Mehrotra, R.S.

Jodhphur : Dr. David N. Sen; 1988 Sep.

Geobios v. 15 (5): p. 220-223; 1988 Sep. Includes references.

Language: English

Descriptors: Haryana; Indian punjab; Oryza sativa; Magnaporthe salvinii; Fungus control; Soil amendments; Virulence; Yield response functions

28 NAL Call No: S605.5.B5

Crop residue management for improved soil productivity.

Elliott, L.F.; Papendick, R.I.

Berkhamsted : A B Academic Publishers; 1986.

Biological agriculture and horticulture v. 3 (2/3): p. 131-142. ill; 1986. Includes references.

Language: English

Descriptors: Soil fertility; Crop residues; Crop management; Decomposition; Aggregates; Organic matter in soil; Soil management

29 NAL Call No: S592.7.A1S6

Degradation products and the hydrolytic enzyme activities in the soil humification processes.

Lahdesmaki, P.; Piispanen, R.

Oxford : Pergamon Press; 1988.

Soil biology and biochemistry v. 20 (3): p. 287-292; 1988. Includes references.

Language: English

Descriptors: Forest soils; Peat bog soils; Humus forms; Picea abies; Populus tremula; Forest litter; Degradation; Enzyme activity; Decomposition; Humic compounds

30 NAL Call No: QL750.O3

delta13C values of CO2 from soil respiration on sites with crops of C3 and C4 type of photosynthesis.

Schonwitz, R.; Stichler, W.; Ziegler, H.

Berlin, W. Ger. : Springer International; 1986.

Oecologia v. 69 (2): p. 305-308; 1986. Includes references.

Language: English

Descriptors: Photosynthesis; Soils; Respiration; Zea mays; Organic matter in soil

31 NAL Call No: 57.8 P34AE

Differences in agroecological conditions on north- and south-facing slopes of the Central Chernozem Region.

Nakonechnaya, M.A.; Yavtushenko, V.Ye

New York, N.Y. : Scripta Technica; 1989 Mar.

Soviet soil science v. 21 (2): p. 12-21; 1989 Mar. Translated from: Pochvovedeniye, (10), 1988, p. 27-36. (57.8 P34). Includes references.

Language: English; Russian

Descriptors: Leached chernozems; Sloping land; Eroded soils; Arable soils; Mineral fertilizers; Nutrient availability; Humus; Soil acidity; Soil moisture; Physico-chemical properties of soil; Triticum aestivum; Winter wheat; Hordeum vulgare; Crop yield

32 NAL Call No: 56.8 SO3

Distribution and extractability of potassium in size fractions of sandy, feldspathic soils.

McCallister, D.L.

Baltimore, Md. : Williams & Wilkins; 1987 Oct.

Soil science v. 144 (4): p. 274-280; 1987 Oct. Includes references.

Language: English

Descriptors: Nebraska; Crop growth stage; Sandy

soils; Potassium; Nutrient availability; Soil horizons; Organic matter in soil; Clay

33 NAL Call No: 56.8 AU7

A dual radiotracer study of transformations of organic, inorganic and plant residue phosphorus in soil in the presence and absence of plants.

Friesen, D.K.; Blair, G.J.

East Melbourne : Commonwealth Scientific and Industrial Research Organization; 1988.

Australian journal of soil research v. 26 (2): p. 355-366; 1988. Includes references.

Language: English

Descriptors: Crops; Plant nutrition; Organic phosphorus compounds; Crop residues; Organic matter in soil; Mineralization; Plant production; Growth; Radiometry; Tracers; Soil chemistry

34 NAL Call No: QH540.J6

Dynamics of carbon, nitrogen, and phosphorus cycling in a sawgrass tidal marsh with special reference to the aboveground primary production.

Hsieh, Y.P.

Madison, Wis. : American Society of Agronomy; 1988 Oct.

Journal of environmental quality v. 17 (4): p. 676-681; 1988 Oct. Includes references.

Language: English

Descriptors: Cladium jamaicense; Marshes; Cycling in ecosystems; Carbon; Nitrogen; Phosphorus; Detritus; Organic matter in soil

Abstract: The litter-bag method was used to assess the disappearance rates of organic C, N, and P from the plant detritus of a sawgrass (Cladium jamaicense Crantz) tidal marsh in North Florida. A steady-state kinetic model was used to simulate the effects of C, N, and P cycling dynamics on the quantity and quality of soil organic matter in the marsh. Four basic parameters were required for the model, namely, (i) net annual primary production of C, N, and P, (ii) soil organic C, N, and P in the biologically active layer, (iii) disappearance rate of dead standing crop, and (iv) disappearance rates of sawgrass C, N, and P from the litter-bag. The decomposition of sawgrass C, N, and P can be described by a two-component model through which a labile fraction and a refractory ?fraction of the primary production are defined. The rate constants of the labile fraction are one to two orders of magnitude greater than those of the refractory fraction. Simulation study indicated that the time required for soil C, N, and P to reach the steady state were 30, 60, and 70 yr, respectively. The simulation also indicated that the C/N ratio of the soil organic matter changed most significantly in the first 10 yr of the marsh development, whereas The N/P ratio remained relatively the same during the same period of time. The C/N and N/P ratios and the mean fraction remaining of soil organic matter all approach their respective steady-state values, which are 23, 13, and 0.47, respectively. The observed C/N and N/P ratios of the soil organic matter were 21 and 13, respectively. The calculated labile fractions of the sawgrass were 0.34, 0.205, and 0.488 for organic C, N, and P, respectively. The mean retention time of C, N, and P in the labile fraction was 8.5 months. The MRTs of the refractory fractions were 10, 29, and 33 yr for C, N, and P, respectively. The bulk of the soil organic matter consists almost entirely of the refractory fraction of the primary production. According to the simulation,

35 NAL Call No: 385 AG89

Effect of 20-year intensive application of fertilizers on agrochemical properties of Chernozem [translated title].

Stulin, A.F.; Zolotareva, B.N.

Moskva : "Nauka"; 1988 Jul.

Agrokhimiia (7): p. 31-38; 1988 Jul. Includes references.

Language: Russian

Descriptors: Chernozems; Soil chemistry; Humus; Nutrient contents; Yield response functions; Zea mays; Long term experiments

36 NAL Call No: 4 AM34P

Effect of biocidal treatments on cation exchange capacity and fusarium blight of soybean in Delaware soils.

Sandler, H.A.; Carroll, R.B.; Sparks, D.L.

Madison, Wis. : American Society of Agronomy; 1988 Jan.

Agronomy journal v. 80 (1): p. 8-12; 1988 Jan. Includes references.

Language: English

Descriptors: Delaware; Glycine max; Fungal diseases; Wilts; Soil fumigation; Autoclaving; Cation exchange capacity; Organic matter in soil; Soil pH; Clay fraction

Abstract: Fusarium wilt has caused significant losses in soybean [Glycine max (L.) Merr.] produc-

tion and is very difficult to control because it is caused by the soil-borne fungus Fusarium oxysporum. A better understanding of the relationship between soil characteristics and the pathogen and between biocidal treatments and physiochemical properties is needed, especially for soils that appear to be suppressive. The effects of autoclaving and Vapam fumigation on cation exchange capacity, organic matter content, clay content, pH, and Fusarium wilt of soybean were determined for several different Delaware soil types (Typic Hapludults, Typic Quartzipsamments, and Typic Umbraquults). 'Essex' soybean was grown in the treated soils that had been infested, prior to planting, with 6.3 X 10(4) viable spores per gram of dry soil of a pathogenic Fusarium oxysporum isolate. Treatments were arranged on the greenhouse bench in a randomized complete-block design with five replications. Cation exchange capacity generally increased with fumigation and decreased with autoclaving, but differences were not significant for all soils. Organic matter content increased following fumigation in three soils, and pH values were lowered by both biocidal treatments in all soils except a Matapeake silt loam. Disease incidence and severity were affected differently for each soil type.

37 NAL Call No: 106 P44

Effect of continuous cropping, crop rotations and fertilizers on the fertility of light soddy-podzolic soil [translated title].

Lykov, A.M.; Safonov, A.F.; Vasil'eva, D.V.; Klimenko, N.N.; Zolotarev, M.A.; Sugrubov, V.M.

Moskva : "Kolos"; 1986 Mar.

Izvestiia - Timiriazevskoi sel'skokhoziaistvennoi akademiia (2): p. 3-13; 1986 Mar. Includes references.

Language: Russian

Descriptors: Long term experiments; Continuous cropping; Rotations; Fertilizer application; Soil fertility; Loam soils; Podzolic soils; Humus; Soil properties; Macronutrients; Trace elements

38 NAL Call No: QH84.8.I57 1985

The effect of fertilization and agronomical practices on soil humus and soil nitrogen under different agroecological conditions.

Pryczkova, L.

Budapest : Akademiai Kiado; 1987.

Proceedings of the 9th International Symposium on Soil Biology and Conservation of the Biosphere / edited by J. Szegi. p. 725-731; 1987. Includes references.

Language: English

Descriptors: Czechoslovakia; Solanum tuberosum; Zea mays; Cultivation; No-tillage systems; Nitrogen fertilizers; Rotation; Slurries; Straw

39 NAL Call No: QH84.8.I57 1985

Effect of fertilization and organic matter application on soil respiration dynamics.

Szegi, J.; Gulyas, F.; Fuleky, Gy; Tolner, L.

Budapest : Akademiai Kiado; 1987.

Proceedings of the 9th International Symposium on Soil Biology and Conservation of the Biosphere / edited by J. Szegi. p. 743-754; 1987. Includes references.

Language: English

Descriptors: Hungary; Fertilizer application; NPK fertilizers; Organic fertilizers; Respiration; Soil biology; Carbon dioxide; Mathematical models

40 NAL Call No: 385 AG89

Effect of fertilizer system and lime levels on the content and qualitative composition of humus in meadow-brown soil [translated title].

Fedorov, A.A.; Khavkina, N.V.

Moskva : "Nauka"; 1987 Aug.

Agrokhimiia (8): p. 58-67; 1987 Aug. Includes references.

Language: Russian

Descriptors: USSR far east; Gley soils; NPK fertilizers, Limes; Manures; Soil chemistry; Humus; Rotations

41 NAL Call No: 57.8 P34AE

Effect of fertilizers on the migration of chemical elements in the profile of an illuvial-humus podzol.

Ushakova, G.I.

New York, N.Y. : Scripta Technica; 1987 Sep.

Soviet soil science v. 19 (5): p. 18-25; 1987 Sep. Translated from: Pochvovedenie, (7), 1987, p. 46-53. (57.8 P34). Includes references.

Language: English; Russian

Descriptors: Podzols; Illuvial horizons; Mineral fertilizers; Picea; Forest soils; Transport processes in soil systems

42 NAL Call No: 385 AG89

Effect of fertilizers on the productivity of a

vegetable crop rotation and soil properties [translated title].
Goncharenko, V.E.; Khodeeva, L.P.; Tkach, L.A.; Gurova, Z.I.; Gladkikh, R.P.
Moskva : "Nauka"; 1986 Dec.
Agrokhimiia (12): p. 40-47; 1986 Dec. Includes references.

Language: Russian

Descriptors: Ukrainian SSR; Forest steppes; Leached chernozems; Vegetables; Rotations; Crop yield; Fertilizer application; Soil chemistry; Agronomic characteristics; Nutrient contents of plants; Humus; Biological activity in soil; Food composition

43 NAL Call No: S590.C63
Effect of fulvic and humic acids on nitrification. 1. In vitro production of nitrite and nitrate.
Tan, K.H.; Lopez-Falcon, R.A.
New York, N.Y. : Marcel Dekker; 1987 Aug.
Communications in soil science and plant analysis v. 18 (8): p. 835-853. ill; 1987 Aug. Includes references.

Language: English

Descriptors: Organic matter in soil; Nitrification; Fulvic acids; Humic acids; Oxidation; Nitrites; Nitrates; In vitro; Nitrosomonas; Nitrobacter

44 NAL Call No: 385 AG89
Effect of glyphosate on the fertility of soddy-podzolic soils and the composition of humus [translated title].
Bliev, IU.K.; Mel'nikova, N.I.
Moskva : "Nauka"; 1986 Aug.
Agrokhimiia (8): p. 96-106; 1986 Aug. Includes references.

Language: Russian

Descriptors: Glyphosate; Soil fertility; Podzolic soils; Humus; Composition; Laboratory tests

45 NAL Call No: SD247.J68
Effect of grazing on species diversity, organic matter production and soil properties in a typical grassland of Jabalpur (Madhya Pradesh).
Chaubey, O.P.; Prasad, R.; Jamaluddin
Jabalpur, India : Society of Tropical Forestry Scientists; 1986 Oct.
Journal of tropical forestry v. 2 (4): p. 241-247; 1986 Oct. Includes references.

Language: English

Descriptors: Madhya pradesh; Woodland grasslands; Grazing effects; Botanical composition; Plant density; Organic matter in soil; Soil properties

46 NAL Call No: S590.M6
Effect of high nitrogen fertilizer concentrations on transformation of soil organic matter.
Silkina, N.P.
New York, N.Y. : Allerton Press; 1987.
Moscow University soil science bulletin v. 42 (4): p. 41-46; 1987. Translated from: Moskovskii universitet, Vestnik, Seriia 17, Pochvovedenie, v. 42 (4), 1987, p. 43-48. (S590.M58). Includes references.

Language: English; Russian

Descriptors: Nitrogen fertilizers; Organic matter in soil; Fertilizer application; Humus; Fagopyrum esculentum; Pot experimentation

47 NAL Call No: QH84.8.I57 1985
Effect of irrigation and high doses of nitrogenous fertilizers on microbiological activity of soils in the south of Ukraine.
Dulgerov, A.N.; Seraya, L.I.
Budapest : Akademiai Kiado; 1987.
Proceedings of the 9th International Symposium on Soil Biology and Conservation of the Biosphere / edited by J. Szegi. p. 21-26; 1987. Includes references.

Language: English

Descriptors: Ukrainian SSR; Irrigation systems; Nitrogen fertilizers; Soil biology; Soil flora; Humus; Microbiology; Nitrogen fixation; Beta vulgaris

48 NAL Call No: S590.M6
Effect of lime and fertilizers on the productivity of "residual calcareous" sod-podzolic soil.
Lebedeva, L.A.; Kabalina, L.N.; Yulushev, I.G.
New York, N.Y. : Allerton Press; 1988.
Moscow University soil science bulletin v. 43 (1): p. 49-53; 1988. Translated from: Vestnik Moskovskogo Universiteta. Pochvovedenie, v. 43 (1), 1988, p. 53-57. (S590.M58). Includes references.

Language: English; Russian

Descriptors: USSR; NPK fertilizers; Calcium carbonate; Podzolic soils; Calcareous soils; Humus; Soil pH; Chemical composition; Secale cereale; Hordeum vulgare; Trifolium; Avena sativa; Crop yield

49 NAL Call No: 385 AG89
Effect of long term application of mineral fertilizers and lime on chemical properties, group and fractional composition of humus in soddy-podzolic soil [translated title].
Gomonova, N.F.; Ovchinnikova, M.F.
Moskva : "Nauka"; 1986 Jan.
Agrokhimiia (1): p. 85-90; 1986 Jan. Includes references.

Language: Russian

Descriptors: Dernopodzolic soils; Long term experiments; Mineral fertilizers; Liming; Humus; Chemical composition; Soil chemistry

50 NAL Call No: 56.8 C162
Effect of manure and P fertilizer on properties of a black chernozem in southern Saskatchewan.
Campbell, C.A.; Schnitzer, M.; Stewart, J.W.B.; Biederbeck, V.O.; Selles, F.
Ottawa : Agricultural Institute of Canada; 1986 Nov.
Canadian journal of soil science; Revue canadienne de la science du sol v. 66 (4): p. 601-613; 1986 Nov. Includes references.

Language: English (Summary in French)

Descriptors: Saskatchewan; Chernozemic soils; Phosphorus fertilizers; Manures; Soil fauna; Nitrogen mineralization; Humic compounds

51 NAL Call No: 385 AG89
Effect of new organic fertilizers (R--S AFU and R--S) on soil properties in cotton fields [translated title].
Akhmedov, A.R.
Moskva : "Nauka"; 1988 Aug.
Agrokhimiia (8): p. 70-75; 1988 Aug. Includes references.

Language: Russia

Descriptors: Azerbaijan SSR; Organic fertilizers; Cotton; Wastes; Humus; Dynamics; Chemical composition; Aggregate density; Soil density; Porosity

52 NAL Call No: 464.8 Z3
Effect of organic and inorganic amendments on the soil and rhizosphere microflora in relation to the biology and control of Sclerotium rolfsii causing foot rot of soybean.
Dutta, B.K.; Deb, P.R.
Stuttgart, W. Ger. : Eugen Ulmer; 1986 Apr.
Zeitschrift fur Pflanzenkrankheiten und Pflanzenschutz; Journal of plant diseases and protection v. 93 (2): p. 163-171; 1986 Apr. Includes references.

Language: English

Descriptors: Glycine max; Foot rot; Sclerotium rolfsii; Amendments; Rhizosphere; Pathogenicity

53 NAL Call No: 385 AG89
Effect of organic fertilizers on the fertility of eroded Chestnut soils in the Trans-Baikal area [translated title].
Chimitdorzhieva, G.D.; Abasheeva, N.E.
Moskva : "Nauka"; 1987 Dec.
Agrokhimiia (12): p. 62-66; 1987 Dec. Includes references.

Language: Russian

Descriptors: Siberia; Organic fertilizers; Manures; Oats; Straw; Fertilizer application; Soil fertility; Humus; Chemical composition; Soil; Composting; Soil chemistry; Nitrogen content; Carbon; Chestnut soils; Eroded soils

54 NAL Call No: S592.8.S64
Effect of organic manure on crop yield in long-term field experiments.
Wadman, W.P.
Athens, Ga., USA : International Association for Ecology; 1987.
Soil organic matter dynamics and soil productivity / June H. Cooley, editor. p. 83-89; 1987. (INTECOL bulletin ; 1987:15). Proceedings of an INTECOL workshop held June 4-6, 1986, Ekenaes, Sweden. Includes references.

Language: English

Descriptors: Netherlands; Farmyard manure; Nitrogen fertilizers; Mineral fertilizers; Green manures; Ley farming; Organic matter in soil; Nitrogen response; Beta vulgaris; Solanum tuberosum; Crop yield

55 NAL Call No: S590.C63
Effect of organic matter on changes in soil zinc fractions found in wetland soils.
Ghanem, S.A.; Mikkelsen, D.S.
New York, N.Y. : Marcel Dekker; 1987 Nov.
Communications in soil science and plant analysis v. 18 (11): p. 1217-1234; 1987 Nov. Includes references.

Language: English

Descriptors: California; Oryza sativa; Wetland soils; Mineral deficiencies; Organic matter in soil; Nutrient availability; Oxidation-reduction potential; Cation exchange

56 NAL Call No: 385 C47

Effect of organic matter on mineralization of combination nitrogen fertilizers under submerged soil [translated title].

Chang, T.C.; Moh, Y.C.

Taipei : The Society; 1986 Jun.

Chung-kuo nung yeh hua hsueh hui chih; Journal of the Chinese Agricultural Chemical Society v. 24 (2): p. 121-129. ill; 1986 Jun. Includes references.

Language: Chinese (Summary in English)

Descriptors: Nitrogen fertilizers; Organic compounds; Wetlands; Mineralization

57 NAL Call No: QR1.Z4

Effect of organic soil amendments on the incidence of brown spot disease in maize caused by Physoderma maydis.

Osunlaja, S.O.

Berlin, E. Ger. : Akademie-Verlag; 1989.

Journal of basic microbiology v. 29 (8): p. 501-505; 1989. Includes references.

Language: English

Descriptors: Soil amendments; Organic compounds; Zea mays; Physoderma maydis; Disease resistance; Rice bran; Rice straw; Soil fauna; Microbial activities

58 NAL Call No: 385 AG89

Effect of phosphorus fertilizers on yields in a field crop rotation at different application rates [translated title].

Shirinian, M.Kh

Moskva : "Nauka"; 1987 Jun.

Agrokhimiia (6): p. 12-14; 1987 Jun. Includes references.

Language: Russian

Descriptors: USSR in Europe; Long term experiments; Leached chernozems; Phosphorus fertilizers; Triticum; Winter wheat; Beta vulgaris; Sugarbeet; Helianthus annuus; Soil chemistry; Phosphorus; Humus; Ph; Crop quality

59 NAL Call No: S590.M6

Effect of prolonged systematic application of fertilizers in crop rotation on humus sod-podzol soils.

Khisameeva, T.M.

New York, N.Y. : Allerton Press; 1986.

Moscow University soil science bulletin v. 41 (1): p. 39-44; 1986. Translated from: Moskovskii universitet, Vestnik, Seriia 17, Pochvovedenie, v. 40 (4), 1985, p. 41-46. (S590.M58). Includes references.

Language: English; Russian

Descriptors: Podzolic soils; Fertilizer application; Rotations; Humus

60 NAL Call No: SD409.N48

Effect of site preparation on survival and growth of Douglas-fir (Pseudotsuga menziessi Mirb. Franco.) seedlings.

Graham, R.T.; Harvey, A.E.; Jurgensen, M.F.

Dordrecht : Kluwer Academic Publishers; 1989 Mar.

New forests v. 3 (1): p. 89-98; 1989 Mar. Includes references.

Language: English

Descriptors: Pseudotsuga menziesii; Seedlings; Survival; Growth; Site preparation; Organic matter in soil; Bedding

61 NAL Call No: 56.9 SO3

Effect of soil depth and erosion on yield in the Mississippi Blacklands.

Hairston, J.E.; Sanford, J.O.; Rhoton, F.E.; Miller, J.G.

Madison, Wis. : The Society; 1988 Sep.

Soil Science Society of America journal v. 52 (5): p. 1458-1463. maps; 1988 Sep. Includes references.

Language: English

Descriptors: Mississippi; Glycine max; Prairie soils; Soil depth; Erosion; Soil pH; Organic matter in soil; Yield response functions; Rain

Abstract: Farmer fields were used 4 consecutive yr (1982-1985) to determine effects of soil depth and other parameters on soybean [Glycine max. (L.) Merr.] yield in the Mississippi Blackland Prairie. Soybean yields were sampled on 25 miniplots (1.8 m2) at each of two sites the first 2 yr and from six sites the third and fourth years. Soil depth ranged from 100 to 1500 mm across the miniplots at each site, and most plots had a silty clay texture. Soil samples were collected the second, third and fourth years from the 0- to 150-mm depth and analyzed for pH, organic matter and extractable nutrients. Seasonal rainfall distribution was mea-

sured at each site the third and fourth years. Grain yields were variable from year to year for specific sites as well as from site to site within a given year. Regression analyses indicated that differences from site to site were due to variation in soil organic matter and rainfall distribution; whereas, differences within a site were influenced by organic matter, soil depth, and other parameters such as pH and available K which were related to depth. Grain yields ranged from near zero to over 2.5 Mg ha-1, depending on depth, organic matter content and seasonal rainfall distribution. Differences due to fertility were less pronounced. Soil depth was a much better predictor of yield at sites with low organic matter, especially when rainfall was also low. A regression model for depth vs. yield indicated that 10 mm of soil was worth an average of 0.006 Mg ha-1 of soybean grain within the 500- to 1500-mm depth but worth 0.06 Mg ha-1 within the 50- to 150-mm depth.

62 NAL Call No: 385 AG89

Effect of soil tillage methods and mineral fertilizers on the productivity of a soil-conservation crop rotation and on agrochemical indicators of soil fertility [translated title].

Riadovoi, V.A.; Veretel'nikov, V.P.; Radchenko, N.S.

Moskva : "Nauka"; 1988 Jan.

Agrokhimiia (1): p. 24-27; 1988 Jan. Includes references.

Language: Russian

Descriptors: Chernozems; Rotations; Mineral fertilizers; Physico-chemical properties of soil; Humus; Phosphorus; Potassium; Soil fertility; Crop yield; Cereals; Forage crops

63 NAL Call No: 385 AG89

Effect of straw-free liquid manure on the fertility of soddy-podzolic soil [translated title].

Shkel', M.P.; Bulavin, L.A.

Moskva : "Nauka"; 1987 Oct.

Agrokhimiia (10): p. 61-63; 1987 Oct. Includes references.

Language: Russian

Descriptors: Liquid manures; Zea mays; Green maize; Yield response functions; Soil chemistry; Humus; Phosphorus; Potassium; Dernopodzolic soils; Nutrient balance

64 NAL Call No: 410 M58

Effect of swamp size on growth rates of cypress (Taxodium distichum) trees.

Ewel, K.C.; Wickenheiser, L.P.

Notre Dame, Ind. : University of Notre Dame; 1988 Oct.

American midland naturalist v. 120 (2): p. 362-370; 1988 Oct. Includes references.

Language: English

Descriptors: Florida; Taxodium distichum; Growth rate; Swamps; Size; Nutrient availability; Organic matter in soil; Productivity

65 NAL Call No: 57.8 P34AE

Effect of the meliorative state of irrigated lands of the Chu River Valley on the water-salt regime and yield.

Demchenko, Ye.I.; Kaplinskiy, M.I.

New York, N.Y. : Scripta Technica; 1989 Mar.

Soviet soil science v. 21 (2): p. 69-75; 1989 Mar. Translated from: Pochvovedeniye, (12), 1988, p. 130-135. (57.8 P34). Includes references.

Language: English; Russian

Descriptors: USSR; Soil salinity; Sulfates; Salts in soil; Irrigated soils; Soil toxicity; Humus; Groundwater level; Mineral content; Loam soils; Field crops; Crop yield

66 NAL Call No: 56.8 C162

Effect of tillage reduction and fertilizer on soil macro- and microaggregation.

Weill, A.N.; De Kimpe, C.R.; McKyes, E.

Ottawa : Agricultural Institute of Canada; 1989 Aug.

Canadian journal of soil science v. 69 (3): p. 489-500; 1989 Aug. Includes references.

Language: English (Summary in French)

Descriptors: Quebec; Zea mays; Aggregates; Fertilizers; Manures; Organic matter in soil; Soil pH; Tillage

67 NAL Call No: 385 AG89

Effect of velpar on humus composition and soil biological activity in model experiments [translated title].

Bliev, IU.K.; Mel'nikova, N.I.; Vyrodova, S.A.; Postnikova, E.E.

Moskva : "Nauka"; 1988 Jul.

Agrokhimiia (7): p. 91-99; 1988 Jul. Includes references.

Language: Russian

Descriptors: Podzolic soils; Sandy loam soils; Container grown plants; Pinus; Herbicide application; Humus; Chemical composition; Biological activity in soil

68 NAL Call No: 100 AR42F
Effect of wheat residue on early growth of soybean.
Caviness, C.E.; Collins, F.C.; Sullivan, M.
Fayetteville, Ark. : The Station; 1986 May.
Arkansas farm research - Arkansas Agricultural Experiment Station v. 35 (3): p. 8; 1986 May.

Language: English

Descriptors: Arkansas; Glycine max; Wheat straw; Plant residues; Stubble; Double cropping; Erosion control; Organic matter in soil; Allelopathy; Crop yield

69 NAL Call No: 56.8 C162
Effectiveness of manure and commercial fertilizer in restoring productivity of an artificially eroded Dark Brown Chernozemic soil under dryland conditions.
Dormaar, J.F.; Lindwall, C.W.; Kozub, G.C.
Ottawa : Agricultural Institute of Canada; 1988 Nov.
Canadian journal of soil science v. 68 (4): p. 669-679; 1988 Nov. Includes references.

Language: English (Summary in French)

Descriptors: Triticum aestivum; Crop yield; Grain; Protein content; Crop quality; Eroded soils; Brown chernozemic soils; Soil treatments; Feedlot wastes; Nitrogen-phosphorus fertilizers; Fertilizer application; Organic matter in soil; Soil fertility; Land productivity; Dry conditions; Soil reclamation

70 NAL Call No: 107 T13
Effectiveness of soil texture, water contents and organic amendments on the growth of Trichoderma spp. and Rhizoctonia solani.
Wu, W.S.
Taipei, China : The College; 1986 Apr.
Yen chiu pao kao; Memoirs of the College of Agriculture, National Taiwan University v. 26 (1): p. 70-80; 1986 Apr. Includes references.

Language: English (Summary in Chinese)

Descriptors: Trichoderma; Thanatephorus cucumeris; Plant pathogens; Antagonism; Soil texture; Soil water content; Soil amendments

71 NAL Call No: QH84.8.B46
Effects of animal manure and mineral fertilizer on the total carbon and nitrogen contents of soil size fractions.
Christensen, B.T.
Berlin : Springer International; 1988.
Biology and fertility of soils v. 5 (4): p. 304-307; 1988. Includes references.

Language: English

Descriptors: Denmark; Animal manures; Mineral fertilizers; Carbon; Nitrogen; Organic matter in soil; Particle size; Soil fertility

72 NAL Call No: 56.8 J823
Effects of long-term phosphatic fertilizer applications on amounts and forms of phosphorus in soils under irrigated pasture in New Zealand.
Condron, L.M.; Goh, K.M.
Oxford : Blackwell Scientific Publications; 1989 Jun.
The Journal of soil science v. 40 (2): p. 383-395; 1989 Jun. Includes references.

Language: English

Descriptors: New zealand; Superphosphate; Calcium carbonate; Liming; Fertilizer application; Mineralization; Immobilization; Organic matter in soil; Physico-chemical properties of soil; Irrigated soils; Pasture soils; Lolium perenne; Trifolium repens

73 NAL Call No: 10 J822
Effects of native vesicular-arbuscular mycorrhizal fungi and phosphate fertilizer on red clover growth in acid soils.
Sainz, M.J.; Arines, J.
Cambridge : Cambridge University Press; 1988 Aug.
The Journal of agricultural science v. 3 (pt.1): p. 67-73; 1988 Aug. Includes references.

Language: English

Descriptors: Spain; Trifolium pratense; Phosphorus fertilizers; Vesicular arbuscular mycorrhizae; Dry matter accumulation; Growth; Phosphorus uptake; Roots; Shoots; Humic brown soils

74 NAL Call No: 26 T754
Effects of pre-planting, mixed planting and planting density of Vigna unguiculata (L.) Walp. on the growth of Luffa aegyptiaca Mill. in humic and red lateritic soils.
Okusanya, O.T.; Edet, L.E.; Lakanmi, O.O.
Guildford : Butterworth Scientific; 1988 Jul.
Tropical agriculture v. 65 (3): p. 241-244; 1988 Jul.

Includes references.

Language: English

Descriptors: Nigeria; Vigna unguiculata; Cultivars; Preplanting treatment; Mixed cropping; Plant density; Luffa aegyptiaca; Growth; Correlation

75 NAL Call No: SD388.W6

Effects of soil compaction on height growth of a California pondersoa pine plantation.

Helms, J.A.; Alexander, E.B.

Bethesda, Md. : Society of American Foresters; 1986 Oct.

Western journal of applied forestry v. 1 (4): p. 104-108; 1986 Oct. Includes references.

Language: English

Descriptors: California; Pinus ponderosa; Soil compaction; Height; Growth; Forest plantations; Bulk density; A horizons; Organic matter in soil; Nitrogen

76 NAL Call No: S592.8.S64

Effects of soil organic matter on yields of crops in long-term experiments at Rothamsted and Woburn.

Johnston, A.E.

Athens, Ga., USA : International Association for Ecology; 1987.

Soil organic matter dynamics and soil productivity / June H. Cooley, editor. p. 9-16; 1987. (INTECOL bulletin ; 1987:15). Proceedings of an INTECOL workshop held June 4-6, 1986, Ekenaes, Sweden. Includes references.

Language: English

Descriptors: England; Organic matter in soil; Crops; Gramineae; Farmyard manure; Nitrogen fertilizers; Phosphorus potassium fertilizers; Crop yield; Yield factors; Sandy loam soils; Clay loam soils; Rotations

77 NAL Call No: QK867.J67

Effects of soil properties on growth and chlorosis in sugarcane.

Somawanshi, R.B.; Kadu, P.P.

New York, N.Y. : Marcel Dekker; 1988 Jun.

Journal of plant nutrition v. 11 (6/11): p. 1545-1555; 1988 Jun. Paper presented at the "Fourth International Symposium on Iron Nutrition and Interactions in Plants," July 6-9, 1987, University of New Mexico, Albuquerque. Includes references.

Language: English

Descriptors: Maharashtra; Saccharum; Iron; Nutrient deficiencies; Chlorosis; Growth; Roots; Calcareous soils; Physico-chemical properties of soil; Organic matter in soil

78 NAL Call No: 10 EX72

Effects of spacing and lopping on a mesquite (Prosopis juliflora)-Karnal grass (Leptochloa fusca) agroforestry system on an alkaline soil.

Singh, G.; Abrol, I.P.; Cheema, S.S.

Cambridge : Cambridge University Press; 1989 Jul.

Experimental agriculture v. 25 (3): p. 401-408; 1989 Jul. Includes references.

Language: English (Summary in Spanish)

Descriptors: Prosopis juliflora; Leptochloa; Agroforestry; Spacing; Lopping; Growth; Forage; Yields; Alkaline soils; Organic matter in soil; Nitrogen content

79 NAL Call No: TD420.A1E5

Effects of structural and compositional variations of dissolved humic materials on pyrene Koc values.

Gauthier, T.D.; Seitz, W.R.; Grant, C.L.

Washington, D.C. : American Chemical Society; 1987 Mar.

Environmental science & technology v. 21 (3): p. 243-248; 1987 Mar. Includes references.

Language: English

Descriptors: Humic acids; Fulvic acids; Soil chemistry; Chemical composition; Binding; Soil pollution; Pollutants

80 NAL Call No: TD930.A32

Effects of various organic wastes alone and with earthworms on the total dry matter yield of wheat and maize.

Sharma, N.; Madan, M.

London : Elsevier Applied Science Publishers; 1988.

Biological wastes v. 25 (1): p. 33-40; 1988. Includes references.

Language: English

Descriptors: India; Agricultural wastes; Waste utilization; Organic matter in soil; Biodegradation; Soil fauna; Oligochaeta; Soil fertility; Plant production; Triticum aestivum; Zea mays; Yield factors

81 NAL Call No: SD14.B7F7

Effects of vegetation and soil profile on planted

white spruce seedlings.
Wurtz, T.L.; Zasada, J.
Victoria, B.C. : Forestry Canada; 1988 May.
FRDA report (026): p. 35-36; 1988 May. Paper presented at the "Workshop on Vegetation Competition and Responses", Feb 15-17, 1988, Vancouver, British Columbia. Includes references.

Language: English

Descriptors: Alaska; Picea glauca; Seedlings; Soil temperature; Regeneration; Flood plain forests and forestry; Organic matter in soil

82 **NAL Call No: 56.8 C162**
L'effet de l'incorporation de matieres ligneuses sur l'evolution des proprietes chimiques du sol et sur la croissance des plantes [Effect of ligneous materials on the evolution and chemical properties of soil and on the plant growth].
Ndayegamiye, A.; Dube, A.
Ottawa : Agricultural Institute of Canada; 1986 Nov.
Canadian journal of soil science; Revue canadienne de la science du sol v. 66 (4): p. 623-631; 1986 Nov. Includes references.

Language: French (Summary in English)

Descriptors: Bark; Pig slurry; Crop yield; Nitrogen fixation; Decomposition; Organic matter in soil

83 **NAL Call No: 56.8 P343**
Effets de l'intensite d'eclaircie sur les horizons organiques et hemiorganiques du sol en futaie equienne de Picea abies [Effects of thinning intensity on organic and hemiorganic soil horizons in an even aged stand of Picea abies].
Terlinden, M.; Andre, P.
Jena, E. Ger. : Gustav Fischer; 1988.
Pedobiologia v. 32 (5/6): p. 301-309. ill; 1988. Includes references.

Language: French (Summary in English)

Descriptors: Belgium; Picea abies; Thinning; Stand density; Organic horizons; Organic matter in soil; Soil pH; Soil degradation; Soil fertility; Physicochemical properties of soil

84 **NAL Call No: 385 AG89**
Efficiency of herbicides in soybean crops [translated title].
Kidrishev, T.K.
Moskva : "Nauka"; 1988 Dec.
Agrokhimiia (12): p. 104-107; 1988 Dec. Includes references.

Language: Russian

Descriptors: Kazakh SSR; Glycine max; Weed control; Herbicide application; Cultural weed control; Herbicide rates; Chestnut soils; Soil texture; Humus; Yield response functions

85 **NAL Call No: 464.8 AR2**
Einfluss von Textur. Gehalt an organischer Substanz, Dichte und Luftgehalt des Bodens auf die Vermehrung von Heterodera Schachtii Schmidt, 1871 an Zuckerruben [Influence of soil texture, organic matter content, density and air content on the multiplication of Heterodera schachtii Schmidt, 1871 on sugarbeet plants].
Fichtner, E.
Berlin, E. Ger. : Akademie der Landwirtschaftswissenschaften der Deutschen Demokratischen Republik; 1986.
Archiv fur Phytopathologie und Pflanzenschutz : Archives of phytopathology and plant protection v. 22 (4): p. 343-350; 1986. Includes references.

Language: German (Summary in English; Russian)

Descriptors: Heterodera schachtii; Plant parasitic nematodes; Beta vulgaris; Soil texture; Organic matter in soil

86 **NAL Call No: S1.S68**
Enzyme activity of light chestnut soils in cotton/alfalfa rotation.
Dzhafarov, S.M.
New York, N.Y. : Allerton Press; 1988.
Soviet agricultural sciences (4): p. 25-28; 1988. Translated from: Doklady Vsesoyuznoi Akademii Sel'skokhozyaistvennykh Nauk Im. V. I. Lenina, (4), 1988, p. 17-19. (20 AK1). Includes statistical data. Includes references.

Language: English; Russian

Descriptors: Gossypium hirsutum; Medicago sativa; Chestnut soils; Enzyme activity; Rotations; Humus; Mineral fertilizers

87 **NAL Call No: S590.2.I57**
Fertilizer application, food production and changes in soil fertility through 30 years' land utilization in South China.
Li, C.K.
Beijing, China : Science Press; 1986.
Proceedings of the International Symposium on Red Soils / edited by Institute of Soil Science, Academia Sinica. p. 560-575; 1986. Presented at

the "International Symposium on Red Soils," November 15-19, 1983, Nanjing, China.

Language: English

Descriptors: China; Tropical soils; Subtropical soils; Soil fertility; Fertilizer application; Organic matter in soil; Plant production

88 NAL Call No: 385 AG89

Fertilizer application for a planned crop yield in rotation in relation with humus balance in leached Chernozems of the Kursk Oblast' [translated title].

Dubich, A.V.; Stupakov, A.G.

Moskva : "Nauka"; 1987 Mar.

Agrokhimiia (3): p. 24-30; 1987 Mar. Includes references.

Language: Russian

Descriptors: Leached chernozems; Long term experiments; Rotations; Fertilizer application; Yield targets; Humus; Dynamics

89 NAL Call No: 60.19 B773

Fertilizer requirements for maintenance of a perennial ryegrass (Lolium perenne L.)/white clover (Trifolium repens L.) pasture growing on a humus iron podzol in N.E. Scotland.

Rangeley, A.

Oxford : Blackwell Scientific Publications; 1988 Sep.

Grass and forage science : the journal of the British Grassland Society v. 43 (3): p. 263-272; 1988 Sep. Includes references.

Language: English

Descriptors: Scotland; Sheep; Lolium perenne; Trifolium repens; Pasture management; Fertilizer requirement determinatio; Humus; Iron podzols; Liming; Nitrogen fixation; Nitrogen fertilizers; Potassium fertilizers; Growth; Yields

90 NAL Call No: 56.9 SO3

Field soil properties influencing the variability of denitrification gas fluxes.

Grundmann, G.L.; Rolston, D.E.; Kachanoski, R.G.

Madison, Wis. : The Society; 1988 Sep.

Soil Science Society of America journal v. 52 (5): p. 1351-1355; 1988 Sep. Includes references.

Language: English

Descriptors: Soil properties; Field experimentation; Denitrification; Gas production; Soil water content; Diffusion; Nitrates; Organic matter in soil; Spectral analysis

Abstract: The spatial variability of field denitrification gas fluxes was investigated in relation to water content, soil-gas diffusivity, nitrate concentration, and water soluble organic C. Water was applied in a periodic fashion along a strip of Yolo soil (Typic Xerorthents) amended with chopped alfalfa hay and nitrate. Data were analyzed statistically using simple correlations and spectral and coherency analysis. Log spectrums showed that nitrate cycled at the frequency at which water content cycled and was negatively related to water content due to apparent leaching of nitrate from the high water application areas. Denitrification gas flux cycled at twice the frequency of water content with maximum fluxes occurring at the sides of the water peaks. Spectrums for water soluble organic C and gas diffusivity indicated no significant spatial cycling. Although denitrification gas flux was more highly correlated to soil-water content than to any other variable, coherency analyses revealed no significant relationships between denitrification gas flux and water or nitrate at specific frequencies due to opposing effects related to nitrate leaching and small gas diffusivities at the soil surface. The spatial pattern of denitrification calculated flow a simple equation was examined using spectral analysis and was found to be not representing measured denitrification gas flux adequately at the frequency at which water content cycled. The discrepancy between measured denitrification gas flux and calculated denitrification rates was attributed to very small gas diffusivities preventing gas transport to the surface and inadequate characterization of actual C and nitrate concentrations at microsites.

91 NAL Call No: aSD11.A352

FORCYTE-11: an example of the hybrid simulation approach to predicting the consequences for production, yield, economics, soil fertility, nutrient and organic matter reserves, and energy efficiency of alternative crop production systems.

Kimmins, J.P.; Scoullar, K.A.; Comeau, P.G.; Kurz, W.A.; Apps, M.J.; Chatarpaul, L.

St. Paul, Minn. : The Station; 1988.

USDA Forest Service general technical report NC - North Central Forest Experiment Station (120): p. 305-314; 1988. Paper presented at the "Conference on Forest Growth Modelling and Prediction," Aug 23-27, 1987, Minneapolis, Minnesota. Includes references.

Language: English

Descriptors: Forestry; Simulation models; Prediction

92 NAL Call No: 56.8 SO3
Fractionation of applied zinc in rice soils at two moisture regimes and levels of organic matter.
Mandal, L.N.; Mandal, B.
Baltimore, Md. : Williams & Wilkins; 1987 Oct.
Soil science v. 144 (4): p. 266-273; 1987 Oct. Includes references.

Language: English

Descriptors: West bengal; Oryza sativa; Alfisols; Ultisols; Zinc fertilizers; Moisture content; Organic matter in soil; Mineral deficiencies; Soil treatments

93 NAL Call No: S1.N32
Good soil eases drought worries.
Kendall, D.
Emmaus, Pa. : Regenerative Agriculture Association; 1988 Nov.
The New farm v. 10 (7): p. 44-47. ill; 1988 Nov.

Language: English

Descriptors: Wisconsin; Maize; Oats; Farming systems; Organic farming; Rotations; Cover crops; Rotary hoes; Drought; Organic matter in soil; Soil moisture; Weed control

94 NAL Call No: 100 F663
Herbicide evaluation for rice grown on high organic matter soils.
Dusky, J.A.; Jones, D.B.
Belle Glade, Fla. : The Center; 1990 Feb.
Belle Glade EREC research report EV - Florida University Agricultural Research and Education Center (1990-2): p. 39-45; 1990 Feb.

Language: English

Descriptors: Florida; Oryza sativa; Herbicide application; Weed control; Yield response functions; Crops; Tolerances

95 NAL Call No: 511 P444AE
Humic acids: relationship between surface activity and stimulation of plant growth.
Vakhmistrov, D.B.; Zverkova, O.A.; Debets, E.Yu; Mishustina, N.E.
New York, N.Y. : Consultants Bureau; 1987 Jan.
Doklady : botanical sciences - Akademiia nauk SSSR v. 292/294: p. 44-46; 1987 Jan. Translated from: Akademiia nauk SSSR, Doklady, v. 293 (5), 1987, p. 1277-1280. (511 P444A). Includes references.

Language: English; Russian

Descriptors: Cucumis sativus; Humic acids; Nutrient solutions; Growth

96 NAL Call No: 56.9 SO3
Impact of crop production on the physical status of a Typic Albaqualf.
Scott, H.D.; Wood, L.S.
Madison, Wis. : The Society; 1989 Nov.
Soil Science Society of America journal v. 53 (6): p. 1819-1825. maps; 1989 Nov. Includes references.

Language: English

Descriptors: Arkansas; Albaqualfs; Soil cultivation; Organic matter in soil; Soil water retention; Physico-chemical properties of soil; Soil depth; Duration; Mathematical models

Abstract: Extensive tillage during long periods of time affects soil productivity by altering soil properties. Quantitative measurements were made to determine the combined effects of duration of tillage and production of soybean [Glycine max. (L.)] and rice (Oryza sativa) on selected physical and chemical properties of a Crowley silt loam (fine, montmorillonitic, thermic Typic Albaqualf). Four adjacent fields were sampled which included a virgin prairie and three fields in cultivation for 1, 12, and 30 yr. Undisturbed soil cores were taken at 0.05-m depth intervals to 0.15 m and analyzed for soil water retention at 10, 30, 50, 80, 100, 500, and 1500 kPa, bulk density and saturated hydraulic conductivity. Organic matter content, pH, and particle size were determined on disturbed samples. Compared with the cultivated soils, the prairie had higher organic matter contents. The 12-yr and 30-yr fields in cultivation had higher pH values and bulk densities but lower water retained at a given pressure than the prairie and 1-yr field in cultivation. No differences were found with respect to particle-size distribution. For a given soil property, values of CV were affected by time in production but not by depth. The CV was low in the prairie, increased in the 1- and 12-yr fields and in the 30-yr field was similar to values found in the prairie. The greatest changes in organic matter and bulk density occurred in the initial 12 yr of cultivation. The temporal variability of organic mattr contents in the surface 0 to 0.05-m interval was mathematically modeled with both constant and variable rate

equations.

97 NAL Call No: 26 T754
The impact of sugarcane cultivation on three Oxisols from Vanua Levu, Fiji.
Masilaca, A.S.; Prasad, R.A.; Morrison, R.J.
Guildford : Butterworth Scientific; 1986 Oct.
Tropical agriculture v. 63 (4): p. 325-330, 339. maps; 1986 Oct. Includes references.

Language: English (Summary in Spanish)

Descriptors: Fiji; Saccharum officinarum; Cultivation; Oxisols; Soil properties; Soil pHysics; Organic matter in soil; Ion exchange capacity

98 NAL Call No: SD143.S64
Impacts of prescribed burning on coastal plain forest soils.
McKee, W.H. Jr
Bethesda, Md. : The Society; 1986.
Proceedings of the...Society of American Foresters National Convention. p. 107-111; 1986. Includes references.

Language: English

Descriptors: Prescribed burning; Fire effects; Forest soils; Coastal plain soils; Soil texture; Soil fertility; Organic matter in soil; Phosphorus; Nitrogen; Nutrient availability

99 NAL Call No: S19.R8
L'importance de la matiere organique dans la production vivriere [Importance of organic matter in food crop production].
Schene, C.
Kigali : Ministere de l'agriculture et de l'elevage; 1986 Jan.
Bulletin agricole du Rwanda v. 19 (1): p. 26-30; 1986 Jan. Includes references.

Language: French

Descriptors: Organic matter in soil; Fertilizers; Soil fertility

100 NAL Call No: QH541.5.D4J6
Important factors influencing water infiltration and sediment production on arid lands in New Mexico.
Wood, J.C.; Wood, M.K.; Tromble, J.M.
London : Academic Press; 1987 Mar.
Journal of arid environments v. 12 (2): p. 111-118; 1987 Mar. Includes references.

Language: English

Descriptors: New Mexico; Arid soils; Rangelands; Infiltration; Sediment pollution; Soil texture; Bulk density; Organic matter in soil; Runoff; Ground cover; Arid zones

101 NAL Call No: SB1.H6
Improvement of carrot stands with plant biostimulants and fluid drilling.
Sanders, D.C.; Ricotta, J.A.; Hodges, L.
Alexandria, Va. : American Society for Horticultural Science; 1990 Feb.
HortScience v. 25 (2): p. 181-183; 1990 Feb. Includes references.

Language: English

Descriptors: Daucus carota; Crop establishment; Gels; Seedling emergence; Biostimulators; Humic acids; Folic acid; Magnesium sulfate; Root systems; Crop yield

102 NAL Call No: S603.A5
Improvement of cereal-sugarbeet crop rotations in the Right-Bank of the Ukrainian Forest-Steppe [translated title].
Rubin, S.S.; Eshchenko, V.E.; Opryshko, V.P.; Roenko, A.V.; Chekalenko, A.F.
Moskva : Agropromizdat; 1987.
Agronomicheskie osnovy spetsializatsii sevooborotov / pod redaktsiei S.A. Vorob'eva i A.M. Chetvernia. p. 87-94; 1987.

Language: Russian

Descriptors: Ukrainian SSR; Forest steppes; Triticum; Winter wheat; Pisum sativum; Hordeum vulgare; Zea mays; Crop yield; Soil chemistry; Humus; Nitrogen; Organic matter in soil

103 NAL Call No: S1.S68
Improvement of humus state of sward podzolic soils after prolonged use of mineral fertilizers.
Mineev, V.G.; Gomonova, N.F.; Ovchinnikova, M.F.
New York, N.Y. : Allerton Press; 1988.
Soviet agricultural sciences (11): p. 12-16; 1988. Translated from: Vsesoiuznaia akademiia sel'skokhoziaistvennykh nauk, Doklady, (11), 1988, p. 9-12. (20 AK1). Includes references.

Language: English; Russian

Descriptors: Nitrogen-potassium fertilizers; Humus; Podzolic soils; Loam soils; Acid soils; Organic fertilizers; NPK fertilizers; Mineral fertilizers; Ammonium nitrate; Superphosphate; Potassium chloride; Liming; Limed soils; Manures

104 NAL Call No: 26 T754
Infiltration and sediment production of a bushed grassland as influenced by livestock grazing systems, Buchuma, Kenya.
Mbakaya, D.S.; Blackburn, W.H.; Skovlin, J.M.; Child, R.D.
Guildford : Butterworth Scientific; 1988 Apr.
Tropical agriculture v. 65 (2): p. 99-105; 1988 Apr. Includes references.

Language: English

Descriptors: Kenya; Cattle; Goats; Grazing systems; Grassland utilization; Grazing effects; Erosion; Aggregates; Sediment water interface; Infiltration; Rainfall-runoff relationships; Organic matter in soil; Litter (plant); Soil moisture; Bulk density

105 NAL Call No: 60.18 J82
Infiltration rates and sediment production as influenced by grazing systems in the Texas Rolling Plains.
Pluhar, J.J.; Knight, R.W.; Heitschmidt, R.K.
Denver, Colo. : Society for Range Management; 1987 May.
Journal of range management v. 40 (3): p. 240-243; 1987 May. Includes references.

Language: English

Descriptors: Texas; Rangelands; Rotational grazing; Infiltration; Grazing effects; Sediments; Plant communities; Bulk density; Hydrology; Hydrology; Organic matter in soil; Grazing experiments

106 NAL Call No: SB613.S3S9
Influence of different factors on the effect of spraying cereals in the spring with Oxitril 4 as regards weeds and grain yield. 2. Influence of crop, developmental stage, prevailing conditions, geographical and climatic situation, soil type, organic content and N-rate on weed stand and effect on weeds. Composition of weed stand at different relative yields.
Hallgren, E.
Uppsala : Dept. of Plant Husbandry and Research Information Centre, College of Agriculture; 1988.
Weeds and weed control v. 1: p. 39-74; 1988. Paper presented at the "29th Swedish Weed Conference", 27-28 January, 1988, Uppsala. Includes references.

Language: English

Descriptors: Sweden; Triticum; Spring wheat; Winter wheat; Secale cereale; Hordeum vulgare; Avena sativa; Herbicide application; Spraying; Spring; Crops; Developmental stages; Geographical distribution; Climate; Soil types; Organic matter in soil; Nitrogen fertilizers; Weeds; Botanical composition; Crop yield

107 NAL Call No: QK600.M82
Influence of host and non-host rhizospheres and organic amendments on survival of Fusarium oxysporum f. sp. elaeidis.
Oritsejafor, J.J.; Adeniji, M.O.
Cambridge : Cambridge University Press; 1990 Jan.
Mycological research v. 94 (1): p. 57-63; 1990 Jan. Includes references.

Language: English

Descriptors: Leguminosae; Zea mays; Growth rate; Infectivity; Host parasite relationships; Spores; Survival; Rhizosphere; Green manures; Organic matter in soil

108 NAL Call No: SD13.C35
The influence of litter and humus accumulations and canopy openness on Picea sitchensis (Bong.) Carr. and Tsuga heterophylla (Raf.) Sarg. seedlings growing on logs.
Harmon, M.E.
Ottawa, Ont. : National Research Council of Canada; 1987 Dec.
Canadian journal of forest research; Journal canadien de recherche forestiere v. 17 (12): p. 1475-1479; 1987 Dec. Includes references.

Language: English (Summary in French)

Descriptors: Oregon; Picea sitchensis; Tsuga heterophylla; Logs; Forest litter; Crown cover; Humus; Survival; Natural regeneration; Seedlings

109 NAL Call No: 56.8 AU7
Influence of management on the composition of organic matter in red-brown earth as shown by 13C nuclear magnetic resonance.
Oades, J.M.; Waters, A.G.; Vassallo, A.M.; Wilson, M.A.; Jones, G.P.
East Melbourne : Commonwealth Scientific and Industrial Research Organization; 1988.
Australian journal of soil research v. 26 (2): p. 289-299; 1988. Includes references.

Language: English

Descriptors: Pastures; Red brown earths; Organic

matter in soil; Chemical composition; Soil management; Sodium hydroxide; Biomass; Soil structure; Microbial activities; Soil analysis; Nuclear magnetic resonance

110 NAL Call No: S603.A5
Intercrops, and important component of intensive zonal systems of crop farming [translated title].
Loshakov, V.G.
Moskva : Agropromizdat; 1987.
Agronomicheskie osnovy spetsializatsii sevooborotov / pod redaktsiei S.A. Vorob'eva i A.M. Chetvernia. p. 29-40; 1987.

Language: Russian

Descriptors: USSR; Cropping systems; Intercrops; Intensive cropping; Forage crops; Crop yield; Soil fertility; Organic matter in soil; Rotations; Soil biology; Soil moisture; Green manures

111 NAL Call No: SB203.R6
Interseeding in corn.
Nanni, C.; Baldwin, C.S.
Ankeny, Iowa : Soil Conservation Society of America; 1987.
The role of legumes in conservation tillage systems / J.F. Power, editor. p. 26-27; 1987. Paper presented at the "National Conference on the Role of Legumes in Conservation Tillage Systems", April 27-29, 1987, University of Georgia, Athens, Georgia.

Language: English

Descriptors: Ontario; Zea mays; Legumes; Undersowing; Soil pHysics; Bulk density; Soil structure; Organic matter in soil; Yields

112 NAL Call No: SD14.B7F7
Inverted humus mounds: follow-up field assessments.
Hedin, I.B.
Victoria, B.C. : Canadian Forestry Service; 1989 Apr.
FRDA report (072): 17 p. ill; 1989 Apr. Includes references.

Language: English

Descriptors: Site preparation; Mechanical methods; Scarification; Scarifiers; Mounds; Humus

113 NAL Call No: 22.5 P352
Investigation of the structure and some related properties of humic acid in the waste paper pulp of the ammonium sulfite process [translated title].
Jiang, Y.
Peking : The University; 1986.
Pei ching nung yeh ta hsueh hsueh pao; Acta Agriculturae Universitatis Pekinensis v. 12 (2): p. 123-133; 1986. Includes references.

Language: Chinese (Summary in English)

Descriptors: Pulp and paper industry; Humic acids; Waste utilization; Fertilizer application

114 NAL Call No: QH345.B564
Land use change and the global carbon cycle: the role of tropical soils.
Detwiler, R.P.
Dordrecht : Martinus Nijhoff/W. Junk Publishers; 1986.
Biogeochemistry v. 2 (1): p. 67-93; 1986. Includes references.

Language: English

Descriptors: Forest soils; Tropical soils; Carbon cycle; Carbon dioxide; Computer simulation; Deforestation; Land use; Organic matter in soil; Soil fertility

115 NAL Call No: 57.8 C734
Landspreading municipal waste compost.
Mays, D.A.; Giordano, P.M.
Emmaus, Pa. : J.G. Press; 1989 Mar.
BioCycle v. 30 (3): p. 37-39; 1989 Mar. Includes references.

Language: English

Descriptors: Alabama; Zea mays; Municipal refuse disposal; Composting; Waste utilization; Sewage sludge; Application to land; Crop yield; Heavy metals; Cation exchange capacity; Organic matter in soil; Yield increases; Movement in soil

116 NAL Call No: S601.A34
Long-term effects of nitrogenous fertilizers on grassland earthworms (Oligochaeta: Lumbricidae): their relation to soil acidification.
Ma, W.C.; Brussaard, L.; De Ridder, J.A.
Amsterdam : Elsevier; 1990 Jan.
Agriculture, ecosystems and environment v. 30 (1/2): p. 71-80; 1990 Jan. Includes references.

Language: English

Descriptors: Oligochaeta; Nitrogen fertilizers; Mineral fertilizers; Acidification; Soil acidity; Organic matter in soil; Grassland soils

117 NAL Call No: 56.9 SO3
Long-term tillage and nitrogen fertilization effects on organic nitrogen and carbon in a semi-arid soil.
Rasmussen, P.E.; Rohde, C.R.
Madison, Wis. : The Society; 1988 Jul.
Soil Science Society of America journal v. 52 (4): p. 1114-1117; 1988 Jul. Includes references.

Language: English

Descriptors: Oregon; Triticum aestivum; Semiarid soils; Fallow systems; Tillage; Organic matter in soil; Soil properties; Yield factors; Nitrogen fertilizers; Organic nitrogen compounds

Abstract: Maintaining or improving soil organic matter has high priority in agriculture because of its beneficial effect on soil physical, chemical, and biological properties. Soil organic N and C were measured 44 yr after establishment of a long-term experiment to evaluate tillage and fertilizer effects in a winter wheat (Triticum aestivum L.)-fallow rotation on a coarse-silty mixed mesic Typic Haploxeroll. Main treatments consisted of three primary tillage systems, one conventional (moldboard plow) and two stubble mulch (offset disc, subsurface sweeps). Subplots consisted of six N treatments, 493, 728, 986, 1221, 1714, and 2207 kg N ha-1 applied over 44 yr. Organic N and C in the top 75 mm of soil were 26 and 32% higher, respectively, in the two stubble mulch systems than in coventional tillage, and equal below 75 mm. Stubble mulch plots contained 245 kg more N ha 1 than conventionally tilled plots, representing the conservation of 5.7 kg N ha-1 yr-1. Nitrogen fertilization increased soil N linearly in all tillage treatments, with 18% of the applied N incorporated into the soil organic fraction. Applied N also increased soil C linearly on plots with previous S application. Soil C was higher on plots with no previous S than on comparable plots with previous S, however, which suggests an S deficiency that altered S, but not N, transformations in soil. Identical N fertilization effects on soil organic N and C in both stubble mulch and conventional tillage suggests that N transformations were the same in both systems.

118 NAL Call No: 4 AM34P
Long-term tillage and rotation effects on corn growth and yield on high and low organic matter, poorly drained soils.
Griffith, D.R.; Kladivko, E.J.; Mannering, J.V.; West, T.D.; Parsons, S.D.
Madison, Wis. : American Society of Agronomy; 1988 Jul.
Agronomy journal v. 80 (4): p. 599-605; 1988 Jul. Includes references.

Language: English

Descriptors: Zea mays; Tillage; Time; Rotations; Growth rate; Crop yield; Organic matter in soil; No-tillage systems; Drainage systems

119 NAL Call No: 56.8 AU7
Long-term trends in fertility of soils under continuous cultivation and cereal cropping in southern Queensland. I. Overall changes in soil properties and trends in winter cereal yields.
Dalal, R.C.; Mayer, R.J.
East Melbourne : Commonwealth Scientific and Industrial Research Organization; 1986.
Australian journal of soil research v. 24 (2): p. 265-279. maps; 1986. Includes references.

Language: English

Descriptors: Queensland; Soils; Soil fertility; Soil properties; Soil chemistry; Physical properties of soil; Continuous cropping; Cereals; Crop yield; Organic matter in soil; Cultivation; Trends; Subtropics

120 NAL Call No: SD1.F627
Maintenance of productivity of radiata pine monocultures on sandy soils in southeast Australia.
Farrell, P.W.; Flinn, D.W.; Squire, R.O.; Craig, F.G.
The Hague: Martinus Nijhoff/Dr W. Junk Publishers; 1986.
Forestry sciences v. 20: p. 127-136; 1986. Includes references.

Language: English

Descriptors: Australia; Pinus radiata; Monoculture; Sandy soils; Biomass accumulation; Rotations; Cultural methods; Organic matter in soil; Logging waste; Forest litter

121 NAL Call No: 57.8 P34AE
Microbiological aspects of soil productivity.
Aristovskaya, T.V.
New York, N.Y. : Scripta Technica; 1989 Jan.
Soviet soil science v. 21 (1): p. 1-11. ill; 1989 Jan.
Translated from: Pochvovedeniye, (9), 1988, p. 53-63. (57.8 P34). Literature review. Includes references.

Language: English; Russian

Descriptors: Soil flora; Biological activity in soil; Organic matter in soil; Plant residues; Decomposition; Physico-chemical properties of soil; Soil formation; Models

122 NAL Call No: SD387.M8A3

Modeling agroforestry systems of cacao (Theobroma cacao) with laurel (Cordia alliodora) and poro (Erythrina poeppigiana) in Costa Rica. I. Inventory of organic matter and nutrients.

Alpizar, L.; Fassbender, H.W.; Heuveldop, J.; Folster, H.; Enriquez, G.

Dordrecht : Martinus Nijhoff/W. Junk; 1986.

Agroforestry systems v. 4 (3): p. 175-189. ill; 1986. Includes 29 references.

Language: English

Descriptors: Costa Rica; Theobroma cacao; Cordia alliodora; Erythrina; Agroforestry; Organic matter in soil; Nutrients; Nutrient cycles; Litter (plant); Mathematical models

123 NAL Call No: S601.A34

A monitoring study on nutrient cycles in soils used for shifting cultivation under various climatic conditions in tropical Asia. III. The effects of land clearing through burning on fertility level.

Andriesse, J.P.; Schelhaas, R.M.

Amsterdam : Elsevier; 1987 Aug.

Agriculture, ecosystems and environment v. 19 (4): p. 311-332. ill., maps; 1987 Aug. Includes references.

Language: English

Descriptors: Sri lanka; Sarawak; Thailand; Shifting cultivation; Prescribed burning; Land clearance; Soil fertility; Nutrient cycles; Tropics; Organic matter in soil; Nitrogen; Losses from soil systems

124 NAL Call No: 56.9 SO3

Nitrogen placement evaluation for winter wheat in three fallow tillage systems.

Varvel, G.E.; Havlin, J.L.; Peterson, T.A.

Madison, Wis. : The Society; 1989 Jan.

Soil Science Society of America journal v. 53 (1): p. 288-292; 1989 Jan. Includes references.

Language: English

Descriptors: Nebraska; Triticum aestivum; Winter wheat; Fertilizer placement; Nitrogen fertilizers; Organic matter in soil; Soil injection; Broadcasting; Nitrogen; Immobilization; No-tillage; Stubble mulching; Fallow systems; Plowing; Nutrient removal by plants; Crop yield; Dry matter accumulation

Abstract: Increased soil water storage with increasing amounts of surface residue in winter wheat (Triticum aestivum. L.)-fallow cropping systems has not consistently resulted in higher grain yields in the Great Plains. Earlier results had suggested increased amounts of surface residue may increase N immobilization and limit N availability, thereby reducing potential for use of the additional stored soil water. This study was conducted to determine if N placement below the zone of organic matter or surface residue accumulation would reduce N immobilization and increase yields. The effects of N placement were evaluated by surface broadcasting and injecting below the soil surface 15N depleted NH4NO3 at 45kg ha-1 in no-till, stubble mulch, and plow fallow method systems on an Alliance silt loam (fine-silty, mixed mesic Aridic Argiustolls) in a long-term study in western Nebraska. Dry matter and grain yield, N concentration, N uptake, 15N concentration, 15N uptake, and fertilizer recovery in plant tissue were determined for fallow method and N placement during the 1985, 1986, and 1987 growing seasons. Dry matter and grain yield, N concentration, N uptake, 15N uptake, and fertilizer recovery were all significantly affected by fallow method during all 3 yr of the study, being highest in plow and lowest in no-till with stubble mulch values intermediate. Nitrogen placement however, had no effect on any of the variables in any of the tillage systems. In this environment, N immobilization does not appear to be a factor limiting use of additional stored soil water in reduced tillage systems because fertilizer recovery was equal for both placement methods in all three tillage systems.

125 NAL Call No: 80 G85W

No-till approach to weed control.

Himelrick, D.

Willoughby, Ohio : Meister Pub. Co; 1986 May.

Western fruit grower v. 106 (5): p. 31-32, 34. ill; 1986 May.

Language: English

Descriptors: New York; Vitis; Viticulture; No-tillage; Weed control; Organic matter in soil; Nutrient availability; Crop yield

126 NAL Call No: S590.S62

Nutrient and organic matter dynamics as components of agricultural production systems models.

Cole, C.V.; Williams, J.; Shaffer, M.; Hanson, J.

Madison, Wis. : Soil Science Society of America; 1987.
SSSA special publication series (19): p. 147-166; 1987. Paper presented at a Symposium on "Soil Fertility and Organic Matter as Critical Components of Production Systems," December 3, 1985, Chicago, Illinois. Includes references.

Language: English

Descriptors: Organic matter in soil; Cropping systems; Crop residues; Simulation models

127 NAL Call No: SD409.N48
Nutrient and water availability to and growth of young radiata pine plantations intercropped with lupins.
Nambiar, E.K.S.; Nethercott, K.H.
Dordrecht : Martinus Nijhoff Publishers; 1987.
New forests v. 1 (2): p. 117-134. ill; 1987. Includes references.

Language: English

Descriptors: Pinus radiata; Forest plantations; Intercropping; Lupinus angustifolius; Water relations; Organic matter in soil; Nitrogen

128 NAL Call No: SD13.C35
Nutrient cycling following whole-tree and conventional harvest in northern mixed forest.
Hendrickson, O.Q.; Chatarpaul, L.; Burgess, D.
Ottawa, Ont. : National Research Council of Canada; 1989 Jun.
Canadian journal of forest research; Journal canadien de recherche forestiere v. 19 (6): p. 725-735; 1989 Jun. Includes references.

Language: English (Summary in French)

Descriptors: Harvesting; Whole tree logging; Soil chemistry; Forest soils; Mineral soils; Precipitation; Organic matter in soil; Leaching; Snow; Nutrient cycles

129 NAL Call No: 26 T754
Nutrient cycling in paddy rice of a traditional farming system, dry zone, Sri Lanka.
Palm, O.; Ananda P de Silva, M.
Guildford : Butterworth Scientific; 1987 Apr.
Tropical agriculture v. 64 (2): p. 129-133; 1987 Apr. Includes references.

Language: English

Descriptors: Sri lanka; Oryza sativa; Nutrient cycles; Traditional farming; Nitrogen uptake; Phosphorus uptake; Organic matter in soil; Mineralization; Crop yield

130 NAL Call No: S605.5.B5
Observations on a mixed farm during the transition to biological husbandry.
Patriquin, D.G.; Hill, N.M.; Baines, D.; Bishop, M.; Allen, G.
Berkhamsted : A B Academic Publishers; 1986.
Biological agriculture and horticulture v. 4 (2): p. 69-154. ill., maps; 1986. Includes references.

Language: English

Descriptors: Nova Scotia; Alternative farming; Mixed farming; Conversion; Organic matter in soil; Fertility; Weed control; Economic factors; Crop yield; Nitrogen; Phosphorus

131 NAL Call No: S603.A5
Organic crop farming [translated title].
Vorob'ev, S.A.; Chetvernia, A.M.
Moskva : Agropromizdat; 1987.
Agronomicheskie osnovy spetsializatsii sevooborotov / pod redaktsiei S.A. Vorob'eva i A.M. Chetvernia. p. 22-29; 1987.

Language: Russian

Descriptors: Cropping systems; Organic farming; Modifications; Crop yield; Organic fertilizers; Legumes; Organic matter in soil; Rotations; Mineral fertilizers; Pesticides; Environmental pollution

132 NAL Call No: SD409.N48
Organic matter amendments to a calcareous forest nursery soil.
Mexal, J.G.; Fisher, J.T.
Dordrecht : Martinus Nijhoff Publishers; 1987.
New forests v. 1 (4): p. 311-323; 1987. Includes references.

Language: English

Descriptors: Pinus ponderosa; Afforestation; Nursery soils; Soil amendments; Growth; Nutrient contents of plants; Sewage sludge; Peat; Bark

133 NAL Call No: SD397.P55I58 1985
Organic matter maintenance in southern pine nursery soils.
Munson, K.R.
Auburn, Ala.? : Orders, Dept. of Research Information, Auburn University, [1986?]; 1986.
Proceedings of the International Symposium on Nursery Management Practices for the Southern Pines, Montgomery, Alabama, August 4-9, 1985 /

edited by David B. South. p. 191-202; 1986. Includes references.

Language: English

Descriptors: Forest nurseries; Nursery soils; Organic matter in soil; Cost benefit analysis

134 NAL Call No: S590.S62
Organic matter management and utilization of soil and fertilizer nutrients.
Doran, J.W.; Smith, M.S.
Madison, Wis. : Soil Science Society of America; 1987.
SSSA special publication series (19): p. 53-72; 1987. Paper presented at a Symposium on "Soil Fertility and Organic Matter as Critical Components of Production Systems," December 3, 1985, Chicago, Illinois. Literature review. Includes references.

Language: English

Descriptors: Organic matter in soil; Nitrogen fertilizers; Soil management; Tillage; Nutrient availability

135 NAL Call No: SD13.C35
Origin of the phosphorus deficiency observed in declining sugar maple stands in the Quebec Appalachians.
Pare, D.; Bernier, B.
Ottawa, Ont. : National Research Council of Canada; 1989 Jan.
Canadian journal of forest research; Journal canadien de recherche forestiere v. 19 (1): p. 24-34; 1989 Jan. Includes references.

Language: English (Summary in French)

Descriptors: Quebec; Acer saccharum; Phosphorus; Nutrient deficiencies; Nutrient contents of plants; Foliar diagnosis; Soil fertility; Soil horizons; Soil pH; Aluminum; Iron; Humus

136 NAL Call No: S1.S68
Peculiarities of soil microbiological processes according to forms of nitrogenous fertilizers.
Chernyaeva, I.I.; Aksenov, S.M.; Sviridova, O.V.
New York, N.Y. : Allerton Press; 1988.
Soviet agricultural sciences (11): p. 17-20; 1988. Translated from: Vsesoiuznaia akademiia sel'skokhoziaistvennykh nauk, Doklady, (11), 1988, p. 12-14. (20 AK1). Includes references.

Language: English; Russian

Descriptors: Nitrogen fertilizers; Hordeum vulgare; Slow release fertilizers; Lupin meal; Organic matter in soil; Biological activity in soil; Soil bacteria; Soil flora; Podzolic soils; Fungus control; Crop yield

137 NAL Call No: 56.9 SO3
Plant and microbial responses to sorghum-soybean cropping systems and fertility management.
Roder, W.; Mason, S.C.; Clegg, M.D.; Doran, J.W.; Kniep, K.R.
Madison, Wis. : The Society; 1988 Sep.
Soil Science Society of America journal v. 52 (5): p. 1337-1342; 1988 Sep. Includes references.

Language: English

Descriptors: Glycine max; Sorghum bicolor; Cropping systems; Microbial flora; Soil flora; Crop yield; Organic matter in soil; Nitrogen; Soil fertility

Abstract: Monoculture production of soybeans (Glycine max (L.) Merr.) and grain sorghum (Sorghum bicolor (L.) Moench) generally results in declining grain yields. To better understand biological and chemical interactions causing yield declines with continuous cropping, microbial biomass, crop root dry weight, soil organic matter, and total N content were measured in a cropping system experiment on a Sharpsburg silty clay loam (Typic Argiudoll). The cropping treatments included continuous soybeans, continuous sorghum, and sorghum-soybean or soybean-sorghum rotations. These treatments were initiated 5 y prior to taking the reported measurements. Fertilizer treatments consisted of no amendment (control), N (45 kg ha-1 on soybean plots and 90 kg ha-1 on sorghum plots), and manure applied at 15.8 Mg dry matter ha-1 yr-1. In summer 1986, the microbial biomass C for the 0-30-cm layer of soil averaged across fertility treatments was 1.37, 1.49, 1.43, and 1.58 Mg ha-1 for continuous soybeans, rotated soybeans, rotated sorghum and continuous sorghum, respectively. Soil microbial biomass C and soil organic matter contents for manured treatments were 11 to 14% and 6 to 16% greater, respectively than those of unfertilized controls. Root dry weights for the 0-30-cm depth were 26 and 77% higher for soybeans and sorghum if the previous crop was sorghum instead of soybeans. In summer 1986, microbial biomass in the 0-15-cm depth was correlated with root density and water-filled pore space in sorghum plots and with bulk density in soybean plots. Previous crop, present crop, and fertilizer treatment affected dry matter

partitioning between above- and below-ground plant parts and microbial biomass. With sorghum as a previous crop, a higher proportion of the total production occurred below ground as roots and microbial biomass.

138 NAL Call No: QR51.I5 1984
Plant health and the sustainability of agriculture, with special reference to disease control by beneficial microorganisms.
Cook, R.J.
Berkamsted : A.B. Academic; 1986.
The role of microorganisms in a sustainable agriculture : selected papers from the second International Conference on Biol. Agric., Univ. of London, Wye College, Wye, Kent, UK / edited by J.M. Lopez-Real and R.D. Hodges. p. 125-146; 1986. Includes references.

Language: English

Descriptors: Agricultural production; Disease control; Plant nutrition; Organic matter in soil; Seeds; Seedlings; Roots; Biological control; Foliar application

139 NAL Call No: 57.8 C734
Plant protection through compost.
Logsdon, G.
Emmaus, Pa. : J.G. Press; 1990 Jan.
BioCycle v. 31 (1): p. 52-54. ill; 1990 Jan.

Language: English

Descriptors: Composts; Pythium; Root rots; Fungus control; Plant disease control; Biological control; Organic matter in soil; Microbial activities

140 NAL Call No: QL391.N4R4
Population of nematodes in soils under banana cv. Poyo in the Ivory Coast. 2. Influence of soil texture, pH and organic matter on nematode populations.
Queneherve, P.
Paris : Office de la recherche scientifique et technique outre-mer; 1988.
Revue de nematologie v. 11 (2): p. 245-251; 1988. Includes references.

Language: English (Summary in French)

Descriptors: Ivory coast; Plant parasitic nematodes; Population dynamics; Organic matter in soil; Soil pH; Soil texture

141 NAL Call No: 21.5 Z15
Porast stevila ogorcic v odvisnosti od narascajocih kolicin mletega fizola in koruznega zdroba kot dodanih organskih gmot v tleh [Increase in the number of nematodes in relation to the rising amounts of ground field beans and maize added as amendments to the organic matter in the soil].
Urek, G.
Ljubljana : Fakulteta; 1988.
Zbornik Biotehniske fakultete univerze Edvarda Kardelja v Ljubljani : Kmetijstvo; Research reports, Biotechnical Faculty, University Edvarda Kardelj of Ljubljana : Agricultural issue (51): p. 281-288; 1988. Includes references.

Language: Slovene (Summary in German)

Descriptors: Yugoslavia; Nematoda; Plant parasitic nematodes; Population density; Organic matter in soil; Phaseolus vulgaris; Zea mays

142 NAL Call No: SD13.F65
Possible effects of intensive harvesting on continuous productivity of forest lands.
Maliondo, S.M.
Fredericton : The Centre; 1988.
Information report M-X - Maritimes Forest Research Centre, Canadian Forestry Service (171): 26 p. ill; 1988. Includes references.

Language: English

Descriptors: Whole tree logging; Soil fertility; Soil pH; Cations; Organic matter in soil; Site quality

143 NAL Call No: S592.6.S9I5 1986
Preliminary study of soil sulfur and sulphur fertilizer efficiency in China.
Liu, Z.Q.
Dhaka, Bangladesh : The Council, The Organizing Committee, [1986?]; 1986.
Proceedings of the International Symposium on Sulphur in Agricultural Soils, BARC, Dhaka, April 20-22, 1986 / sponsored by the Bangladesh Agricultural Research Council and the Sulphur Institute. p. 371-388. maps; 1986. Includes references.

Language: English

Descriptors: China; Sulfur; Sulfur fertilizers; Organic matter in soil; Fertilizer application; Soil analysis

144 NAL Call No: SD143.N6
Prescribed burning white spruce slash in Interior Alaska.
Zasada, J.; Norum, R.
Bethesda, Md. : Society of American Foresters;

1986 Mar.
Northern journal of applied forestry v. 3 (1): p. 16-18; 1986 Mar. Includes references.

Language: English

Descriptors: Alaska; Prescribed burning; Picea glauca; Site preparation; Organic matter in soil; Slash; Mechanical methods; Natural regeneration

145 NAL Call No: 442.8 N22
Problem of obtaining high yields of cereals in the Non-Chernozem zone of the USSR [translated title].
Lebedeva, L.A.
Moskva : "Vysshaia shkola"; 1986.
Biologicheskie nauki : Nauchnye doklady vysshei shkoly (1): p. 5-19; 1986. Literature review. Includes 31 references.

Language: Russian

Descriptors: USSR in Europe; Rsfsr; Cereals; Yield targets; Fertilizer application; Humus; Podzolic soils

146 NAL Call No: SF597.E3E2
Radioecological studies on earthworms and their value for an ecotoxicological risk assessment.
Kuehle, J.C.
The Hague : SPB Academic Publishing; 1988.
Earthworms in waste and environmental management / edited by Clive A. Edwards and Edward F. Neuhauser. p. 377-388; 1988. Includes references.

Language: English

Descriptors: Oligochaeta; Soil fauna; Radioactive tracers; Organic matter in soil; Toxicology; Ecosystems; Soil contamination

147 NAL Call No: 56.8 J823
Reclamation of colliery spoil: the effect of amendments and grass species on grass yield and soil development.
Rimmer, D.L.; Gildon, A.
Oxford : Blackwell Scientific Publications; 1986 Jun.
The Journal of soil science v. 37 (2): p. 319-327; 1986 Jun. Includes references.

Language: English

Descriptors: Wales; Grass sward; Crop yield; Colliery spoil; Soil reclamation; Sward renovation; Seed mixtures; Organic matter in soil; Soil amendments; Deep cultivation; Physical properties of soil

148 NAL Call No: 60.19 B773
Redistribution of nitrogen and phosphorus on Palace Leas meadow hay plots as a result of aftermath grazing.
Shiel, R.S.; Batten, J.C.
Oxford : Blackwell Scientific Publications; 1988 Jun.
Grass and forage science : the journal of the British Grassland Society v. 43 (2): p. 105-110; 1988 Jun. Includes references.

Language: English

Descriptors: England; Gramineae; Regrowth; Grazing intensity; Nutrient cycles; Hay; Yields; Botanical composition; Organic matter in soil; Physico-chemical properties of soil

149 NAL Call No: SD143.N6
Regenerating paper birch in the Lake States with the shelterwood method.
Perala, D.A.; Alm, A.A.
Bethesda, Md. : Society of American Foresters; 1989 Dec.
Northern journal of applied forestry v. 6 (4): p. 151-153. ill; 1989 Dec. Includes references.

Language: English

Descriptors: Minnesota; Michigan; Wisconsin; Betula papyrifera; Shelterwood; Artificial regeneration; Site preparation; Direct sowing; Discing; Mineral soils; Organic matter in soil

150 NAL Call No: RA565.A1E54
Reproductive toxicology of disinfection by-products.
Smith, M.K.; Zenick, H.; George, E.L.
Research Triangle Park, N.C. : National Institute of Environmental Health Sciences; 1986 Nov.
E H P Environmental health perspectives v. 69: p. 177-182; 1986 Nov. Includes references.

Language: English

Descriptors: Drinking water; Disinfectants; Toxicology; Byproducts; Water purification; Humic compounds; Reproductive performance; Rats

151 NAL Call No: S605.5.I45 1984
Research project "Boschheide Hof": results and experiences of converting period from 1979 to 1983.
Buchner, W.
Witzenhausen : Verlagsgruppe Witzenhausen; 1986.
The importance of biological agriculture in a world

of diminishing resources : proc of the 5th IFOAM Int Scientific Conference at the Univ of Kassel (Germany), Aug 27-30, 1984 / H. Vogtmann, E. Boehncke, I. Fricke, eds. p. 150-160; 1986.

Language: English

Descriptors: Rhineland palatinate; German federal republic; Organic farming; Alternative farming; Rotations; Weed control; Nutrient uptake; Manures; Organic matter in soil; Nitrogen mineralization; Crop yield; Sustained yield management

152 **NAL Call No: SB203.R6**

Restoration of eroded Southern Piedmont land in conservation tillage systems.

Langdale, G.W.; Bruce, R.R.; Thomas, A.W.

Ankeny, Iowa : Soil Conservation Society of America; 1987.

The role of legumes in conservation tillage systems / J.F. Power, editor. p. 142-143; 1987. Paper presented at the "National Conference on the Role of Legumes in Conservation Tillage Systems", April 27-29, 1987, University of Georgia, Athens, Georgia. Includes references.

Language: English

Descriptors: Piedmont; Soil conservation; Minimum tillage systems; Eroded sites; Restoration; Nitrogen fertilizers; Irrigation; Sorghum bicolor; Yields; Organic matter in soil

153 **NAL Call No: S605.5.A43**

Restoring the productivity of marginal soils with organic amendments.

Hornick, S.B.; Parr, J.F.

Greenbelt : Institute for Alternative Agriculture; 1987.

American journal of alternative agriculture v. 2 (2): p. 64-68; 1987. Includes references.

Language: English

Descriptors: Marginal land; Soil amendments; Organic compounds; Soil reclamation; Soil management; Bioavailability

154 **NAL Call No: S603.A5**

Role of crop rotations under irrigated conditions [translated title].

Gudkova, Z.P.; Melikhova, N.P.; Dolgova, R.A.; Kardaeva, N.S.

Moskva : Agropromizdat; 1987.

Agronomicheskie osnovy spetsializatsii sevooborotov / pod redaktsiei S.A. Vorob'eva i A.M. Chetvernia. p. 136-144; 1987.

Language: Russian

Descriptors: USSR in Europe; Rsfsr; Rotations; Irrigated farming; Organic matter in soil; Plant residues; Soil chemistry; Biological activity in soil; Soil toxicity; Crop yield

155 **NAL Call No: S596.7.D4 v.25**

The Role of organic matter in modern agriculture.

Chen, Y.; Avnimelech, Yoram

Dordrecht ; Boston : Martinus Nijhoff; 1986.

xiv, 306 p. : ill. ; 25 cm. (Developments in plant and soil sciences ; v. 25). Includes bibliographies.

Language: English

Descriptors: Organic wastes as fertilizer; Crops and soils; Humus; Soil microbiology; Plant growing media

156 **NAL Call No: S590.M6**

Role of the degree of improvement of sod-podzolic soil in accumulation of certain trace elements by barley plants with the use of increasing fertilizer rates.

Egorova, E.V.

New York, N.Y. : Allerton Press; 1988.

Moscow University soil science bulletin v. 43 (1): p. 54-59; 1988. Translated from: Vestnik Moskovskogo Universiteta. Pochvovedenie, v. 43 (1), 1988, p. 57-62. (S590.M58). Includes references.

Language: English; Russian

Descriptors: USSR; Podzolic soils; Molybdenum; Copper; Manganese; Nitrogen content; Chemical constituents of plants; Humus; Hordeum vulgare; Crop yield; Pot experimentation

157 **NAL Call No: 8 T86**

Sistemas agroforestales de cafe (Coffea arabica) con laurel (Cordia alliodora) y cafe con poro (Erythrina poeppigiana) en Turrialba, Costa Rica. III. Modelos de la materia organica y los elementos nutritivos [Agroforestry systems of coffee (Coffea arabica) with laurel (Cordia alliodora) and coffee with poro (Erythrina poeppigiana) in Turrialba, Costa Rica. III. Models for organic matter and nutrients].

Fassbender, H.W.; Alpizar, L.; Heuveldop, J.; Enriquez, G.; Folster, H.

San Jose : Instituto Interamericano de Ciencias Agricolas; 1986 Oct.

Turrialba v. 35 (4): p. 403-413. ill; 1986 Oct. Includes 22 references.

Language: Spanish (Summary in English)

Descriptors: Coffea arabica; Cordia alliodora; Erythrina; Agroforestry; Nutrients; Nutrient cycles; Litter (plant); Organic matter in soil; Models; Tropics

158 NAL Call No: 99.8 F7632
Site preparation effects on soil moisture and available nutrients in a pine plantation in the Florida flatwoods.
Burger, J.A.; Pritchett, W.L.
Bethesda, Md. : Society of American Foresters; 1988 Mar.
Forest science v. 34 (1): p. 77-87; 1988 Mar. Includes references.

Language: English

Descriptors: Florida; Pinus elliottii; Site preparation; Soil moisture; Nutrient availability; Forest plantations; Clearcutting; Nitrogen mineralization; Organic matter in soil; Soil solution

159 NAL Call No: SD13.C35
Site-specific growth and nutrition of planted Picea mariana in the Ontario Clay Belt. I. Early performance.
Munson, A.D.; Timmer, V.R.
Ottawa, Ont. : National Research Council of Canada; 1989 Feb.
Canadian journal of forest research; Journal canadien de recherche forestiere v. 19 (2): p. 162-170; 1989 Feb. Includes references.

Language: English (Summary in French)

Descriptors: Ontario; Picea mariana; Seedlings; Planting; Growth; Site factors; Substrates; Nutrient availability; Humus; Nutrient uptake

160 NAL Call No: A99.9 F764U
Soil chemical properties of raised planting beds in a northern Idaho forest.
Page-Dumroese, D.S.; Jurgensen, M.F.; Graham, R.T.; Harvey, A.E.
Ogden, Utah : The Station; 1989 Dec.
Research paper INT - U.S. Department of Agriculture, Forest Service, Intermountain Research Station (419): 10 p.; 1989 Dec. Includes references.

Language: English

Descriptors: Idaho; Site preparation; Forest soils; Mounds; Mineral soils; Organic matter in soil; Soil fertility; Seedlings; Growth; Survival

161 NAL Call No: S603.A5
Soil fertility and cotton yield under continuous cultivation and in a crop rotation [translated title].
Bolkunov, A.S.
Moskva : Agropromizdat; 1987.
Agronomicheskie osnovy spetsializatsii sevooborotov / pod redaktsiei S.A. Vorob'eva i A.M. Chetvernia. p. 204-210; 1987.

Language: Russian

Descriptors: Uzbek SSR; Rotations; Gossypium; Crop yield; Soil fertility; Humus; Nutrient contents; Mineral fertilizers; Medicago sativa

162 NAL Call No: S605.5.B5
Soil fertility and mineral nutrition of a biodynamic avocado plantation in Tenerife.
Garcia, C.; Alvarez, C.E.; Carracedo, A.; Iglesias, E.
Berkhamsted : A B Academic Publishers; 1989.
Biological agriculture and horticulture : an international journal v. 6 (1): p. 1-10; 1989. Includes references.

Language: English

Descriptors: Canary Islands; Persea americana; Plantations; Organic farming; Soil fertility; Mineral nutrition; Soil pH; Organic matter in soil; Foliar diagnosis; Soil analysis; Statistical analysis

163 NAL Call No: S590.S62 no.19
Soil fertility and organic matter as critical components of production systems proceedings of a symposium.
Follett, R. F.1939-
Soil Science Society of America, Division S-4, American Society of Agronomy
Madison, WI, USA : The Society : American Society of Agronomy; 1987.
ix, 166 p. : ill. ; 23 cm. (SSSA special publication ; no. 19). Description based on: no. 03 (published in 1984); title from cover. Includes bibliographies.

Language: English

Descriptors: Soil management--Congresses; Soil fertility--Congresses; Humus--Congresses

164 NAL Call No: 385 AG89
Soil fertility and the balance of nutrients in maize crop rotations of short rotation [translated title].
Getmanets, A.IA; Lebed', E.M.; Pashova, V.T.;

Suvorinov, A.M.; Usenko, IU.I.; Zagorul'ko, IU.P.
Moskva : "Nauka"; 1986 Nov.
Agrokhimiia (11): p. 50-54; 1986 Nov. Includes references.

Language: Russian

Descriptors: Ukrainian SSR; Steppes; Chernozems; Rotations; Zea mays; Soil chemistry; Humus; Nutrient balance; Crop yield; Nutrient uptake

165 **NAL Call No: aSD11.A42**
Soil mapping and testing.
Selig, R.
Fort Collins, Colo. : The Station; 1986 Feb.
General technical report RM - Rocky Mountain Forest and Range Experiment Station, United States, Forest Service (125): p. 95-98; 1986 Feb. Includes references.

Language: English

Descriptors: Forest soils; Soil survey and mapping; Soil testing; Nitrogen; Phosphorus; Ph; Exchangeable cations; Organic matter in soil; Seedlings; Nutrient contents of plants; Forest nurseries

166 **NAL Call No: 100 N813B**
Soil organic matter and native plant production on the Missouri Coteau.
Lura, C.L.; Richardson, J.L.; Barker, W.T.
Fargo, N.D. : The Station; 1986 Sep.
North Dakota farm research - North Dakota, Agricultural Experiment Station v. 44 (2): p. 14-17, 21; 1986 Sep. Includes references.

Language: English

Descriptors: North Dakota; Mollisols; Grassland soils; Organic matter in soil; Soil fertility; Plant communities; Humus; Biological production; Grasslands; Carbon; Soil properties

167 **NAL Call No: S592.8.S64**
Soil organic matter dynamics and soil productivity.
Cooley, June H.
International Association for Ecology
Athens, Ga., USA : International Association for Ecology; 1987.
ii, 123 p. : ill. ; 25 cm. (INTECOL bulletin ; 1987:15). Proceedings of an INTECOL workshop, held at ... Ekenaes ... Sweden, 4-6 June 1986. Includes bibliographical references.

Language: English

Descriptors: Humus--Congresses; Soils--Carbon content--Congresses; Soil dynamics--Congresses; Soil productivity--Congresses

168 **NAL Call No: S590.S68**
Soil organic matter, effects on soils and crops.
Johnston, A.E.
Oxford : Blackwell Scientific Publications; 1986 Sep.
Soil use and management v. 2 (3): p. 97-105; 1986 Sep. Includes references.

Language: English

Descriptors: Organic matter in soil; Soil fertility; Nitrogen fertilizers; Crop yield

169 **NAL Call No: aZ5071.N3**
Soil organic matter: impacts on productivity: 1979-April 1988.
Schneider, K.
Beltsville, Md. : The Library; 1988 Sep.
Quick bibliography series - U.S. Department of Agriculure, National Agricultural Library (U.S.). (88-76): 36 p.; 1988 Sep. Bibliography.

Language: English

Descriptors: Soil fertility; Organic matter in soil; Bibliographies

170 **NAL Call No: A99.9 F764U**
Soil physical properties of raised planting beds in a northern Idaho forest.
Page-Dumroese, D.S.; Jurgensen, M.F.; Graham, R.T.; Harvey, A.E.
Ogden, Utah : The Station; 1986 Jan.
USDA Forest Service research paper INT - United States, Intermountain Forest and Range Experiment Station (360): 6 p.; 1986 Jan. Includes references.

Language: English

Descriptors: Idaho; Forests; Planting site preparation; Bedding; Organic matter in soil; Soil density; Soil moisture; Scarification; Forest soils; Conifers

171 **NAL Call No: 56.9 SO3**
Soil productivity of four land use systems in southeastern Montana.
McConnell, S.G.; Quinn, M.L.
Madison, Wis. : The Society; 1988 Mar.
Soil Science Society of America journal v. 52 (2): p. 500-506. maps; 1988 Mar. Includes references.

Language: English

Descriptors: Abandoned land; Land use; Land pro-

ductivity; Cropping systems; Biomass; Production possibilities; Soil fertility; Organic matter in soil; Nitrogen

172 NAL Call No: 4 AM34P

Soil properties' role in stem canker infection of soybean.

Rhoton, F.E.

Madison, Wis. : American Society of Agronomy; 1989 May.

Agronomy journal v. 81 (3): p. 431-434; 1989 May. Includes references.

Language: English

Descriptors: Glycine max; Diaporthe phaseolorum; Infection; Eroded sites; Fertilizer application; Edaphic factors; Soil fertility; Soil pH; Organic matter in soil; Soil water content; Plant residues

Abstract: Stem canker [Diaporthe phaseolorum (Cke & Ell.) Sacc. var. caulivora Athow and Caldwell] is a destructive disease of soybean [Glycine max (L.) Merr.] that can unpredictably increase from negligible amounts to near total infestation within a year. An understanding of the soil environment's contribution to these outbreaks is essential to any comprehensive stem canker research program. This study was designed to assess the relationship between several soil properties and different disease levels occurring over a range of soil conditions. Experimental plots were established at six sites that differed in depth of past erosion. A high-fertility status (P, 140 kg ha-1; K, 280 kg ha-1) was maintained on one half of the plots at each site. The remaining plots were left unamended. Visual estimates of stem canker infection levels in 1986 equalled 72 and 86% for the fertilized and unfertilized treatments, respectively, at the slightly eroded site. Estimates for similar treatments at the most severely eroded site were 3 and 2% respectively. Regression analysis indicated that soil organic matter content, pH, and soil water accounted for 66% of the variability in infection levels among the differentially eroded sites; whereas, plant residues from the previous crop year had no influence. Higher infection levels associated with the unfertilized plots were significantly correlated (P less than 0.01 with lower concentrations of K in the soybean plants. These results indicate that greater stem canker infection levels can be expected on soils with higher organic matter, pH, and soil water content, and on soils that contain lower amounts of potassium.

173 NAL Call No: HD1.A3

Soil rating for crop production in the savanna belt of south-western Nigeria.

Gbadegesin, A.

Essex : Elsevier Applied Science Publishers; 1987.

Agricultural systems v. 23 (1): p. 27-42; 1987. Includes references.

Language: English

Descriptors: Nigeria; Zea mays; Soil classification; Savannas; Organic matter in soil; Soil water content; Indexes; Soil properties; Crop production; Growth; Crop yield; Rating scales

174 NAL Call No: 56.8 SO3

Soils and conifer forest productivity on serpentinized peridotite of the Trinity ophiolite, California.

Alexander, E.B.; Adamson, C.; Zinke, P.J.; Graham, R.C.

Baltimore, Md. : Williams & Wilkins; 1989 Dec.

Soil science v. 148 (6): p. 412-423. maps; 1989 Dec. Includes references.

Language: English

Descriptors: California; Peridotite soils; Serpentine; Coniferae; Available water capacity; Organic matter in soil; Soil water relations; Plant water relations; Growth; Exchangeable cations; Physico-chemical properties of soil; Environmental factors

175 NAL Call No: 56.8 SO3

The solubility of aluminum-organic matter and its implication in plant uptake of aluminum.

Hargrove, W.L.

Baltimore, Md. : Williams & Wilkins; 1986 Sep.

Soil science v. 142 (3): p. 179-181; 1986 Sep. Includes references.

Language: English

Descriptors: Organic matter in soil; Aluminum; Soil toxicity; Plants; Uptake; Solubility; Soil pH; Soil chemistry

176 NAL Call No: S603.A5

Specialized sugarbeet crop rotations [translated title].

Zubenko, V.F.; Barshtein, L.A.; IAkimenko, V.N.; Panfilenko, IU.G.; Shkarednyi, I.S.; Kozhukhovskii, N.N.

Moskva : Agropromizdat; 1987.

Agronomicheskie osnovy spetsializatsii sevooborotov / pod redaktsiei S.A. Vorob'eva i A.M. Chetvernia. p. 189-197; 1987.

Language: Russian

Descriptors: Ukrainian SSR; USSR in Europe; Rsfsr; Rotations; Specialized farming; Beta vulgaris; Sugarbeet; Crop yield; Plant diseases; Weeds; Soil chemistry; Humus

177 NAL Call No: S1.S68
Specific surface area and adsorptive properties of typical chernozem subjected to long-term use of fertilizers.
Sapozhnikov, P.M.; Utkaeva, V.F.; Skidanov, I.M.; Kogut, B.M.
New York, N.Y. : Allerton Press; 1988.
Soviet agricultural sciences (4): p. 29-32; 1988. Translated from: Doklady Vsesoyuznoi Akademii Sel'skokhozyaistvennykh Nauk Im. V. I. Lenina, (4), 1988, p. 19-22. (20 AK1). Includes references.

Language: English; Russian

Descriptors: Solanum tuberosum; Chernozems; Manures; Mineral fertilizers; Soil fertility; Physical properties of soil; Humus

178 NAL Call No: 385 AG89
Straw-free manure and humus reproduction in soil [translated title].
Semenov, P.IA
Moskva : "Nauka"; 1987 Feb.
Agrokhimiia (2): p. 105-114; 1987 Feb. Literature review. Includes references.

Language: Russian

Descriptors: Soil chemistry; Humus; Manures; Soil chemistry; Forage crops; Crop yield

179 NAL Call No: SB950.A1P3
The successful use of intercropping for weed management in medicinal yam (Dioscorea floribunda Mart and Gal).
Singh, A.; Singh, M.; Singh, D.V.
London : Centre for Overseas Pest Research; 1986 Apr.
Tropical pest management v. 32 (2): p. 105-107, 188-189, 192; 1986 Apr. Includes references.

Language: English (Summary in French; Spanish)

Descriptors: Uttar pradesh; Dioscorea floribunda; Vigna unguiculata; Vigna mungo; Weed control; Intercropping; Herbicides; Organic matter in soil; Mulches; Crop yield

180 NAL Call No: S603.A5
Sugarbeet productivity in a crop rotation [translated title].
Azhigoev, I.P.
Moskva : Agropromizdat; 1987.
Agronomicheskie osnovy spetsializatsii sevooborotov / pod redaktsiei S.A. Vorob'eva i A.M. Chetvernia. p. 198-204; 1987.

Language: Russian

Descriptors: Kazakh SSR; Rotations; Beta vulgaris; Sugarbeet; Green manures; Organic matter in soil; Humus; Crop yield; Crop quality

181 NAL Call No: S590.C63
Sulphur transformation affected by the application of wastewater from olive processing on soil.
Perez, J.D.; Gallardo-Lara, F.
New York, N.Y. : Marcel Dekker; 1989 Jan.
Communications in soil science and plant analysis v. 20 (1/2): p. 75-84; 1989 Jan. Includes references.

Language: English

Descriptors: Spain; Olives; Food processing; Waste waters; Waste utilization; Calcareous soils; Soil amendments; Sulfur; Physico-chemical properties; Mineral content; Organic matter in soil

182 NAL Call No: S592.7.A1S6
Suppression of damping-off caused by Pythium spp in soil from the indigenous Mexican chinampa agricultural system.
Lumsden, R.D.; Garcia-E, R.; Lewis, J.A.; Frias-T, G.A.
Oxford, Eng. : Pergamon Press; 1987.
Soil biology and biochemistry v. 19 (5): p. 501-508; 1987. Includes references.

Language: English

Descriptors: Mexico; Agricultural soils; Farming systems; Pythium; Soil fungi; Disease control; Biological activity in soil; Soil enzymes; Dehydrogenases; Physico-chemical properties of soil; Organic matter in soil

183 NAL Call No: QH540.A8
Surface soil chemical and physical patterns in a brigalow-Dawson gum forest, central Queensland.
Dowling, A.J.; Webb, A.A.; Scanlan, J.C.
Oxford : Blackwell Scientific Publications; 1986 Jun.
Australian journal of ecology v. 11 (2): p. 155-162. ill; 1986 Jun. Includes references.

Language: English

Descriptors: Queensland; Acacia harpophylla; Eucalyptus; Physico-chemical properties of soil; Solodic soils; Organic matter in soil; Soil fertility; Land use planning; Soil conservation; Forest ecology

184 NAL Call No: 56.8 AU7
Survival of the take-all fungus in the presence and absence of susceptible grasses.
Cotterill, P.J.; Sivasithamparam, K.
East Melbourne : Commonwealth Scientific and Industrial Research Organization; 1988.
Australian journal of soil research v. 26 (2): p. 313-322; 1988. Includes references.

Language: English

Descriptors: Grasses; Pastures; Gaeumannomyces graminis; Fungal diseases; Survival; Organic matter in soil; Soil fertility; Infectivity

185 NAL Call No: 385 AG89
Systemtic application of fertilizers, productivity of crops in a rotation and the fertility of Grey forest soil. 2. Soil fertility change as affected by systematic fertilizer application [translated title].
Sdobnikova, O.V.; IAgovenko, L.L.
Moskva : "Nauka"; 1987 Aug.
Agrokhimiia (8): p. 17-21; 1987 Aug. Includes references.

Language: Russian

Descriptors: Grey forest soils; Soil chemistry; Fertilizer application; NPK fertilizers; Nutrient contents; Soil pH; Humus

186 NAL Call No: S654.L6
Teoriia i praktika ispol'zovaniia organicheskikh udobrenii [Theory and practice of the use of organic fertilizers].
Lozanovskaia, I. N.; Orlov, D. S.; Popov, P. D.
Moskva : Agropromizdat; 1987.
94 p. : ill. ; 22 cm. (Uchebnye posobiia dlia povysheniia kvalifikatsii spetsialistov). Authorized for instructional purposes.

Language: Russian

Descriptors: Organic fertilizers--Soviet Union; Fertilizers--Soviet Union; Humus--Soviet Union; Soil management--Soviet Union

187 NAL Call No: 100 T31M
Tillage effects on microbiological release of soil organic nitrogen.
Doran, J.W.
College Station, Tex. : The Station; 1987 Jul.
Miscellaneous publication MP - Texas Agricultural Experiment Station (1636): p. 63-66; 1987 Jul.
Paper presented at the Southern Region No-Tillage Conference on "Conservation Tillage: Today and Tomorrow," July 1-2, 1987, College Station, Texas. Includes references.

Language: English

Descriptors: USA; Triticum aestivum; Tillage; Crop residues; Cropping systems; Nitrogen economy; Nitrogen mineralization; Microbial activities; Organic matter in soil

188 NAL Call No: SD397.P55158 1985
Trends in the maintenance of soil fertility in Mississippi nurseries.
Nelson, L.E.; Switzer, G.L.
Auburn, Ala.? : Orders, Dept. of Research Information, Auburn University, [1986?]; 1986.
Proceedings of the International Symposium on Nursery Management Practices for the Southern Pines, Montgomery, Alabama, August 4-9, 1985 / edited by David B. South. p. 222-236; 1986. Includes references.

Language: English

Descriptors: Mississippi; Pinus taeda; Pinus elliottii; Forest nurseries; Seedlings; Nursery soils; Soil fertility; Nutrient requirements; Physico-chemical properties of soil; Organic matter in soil

189 NAL Call No: 81 AM31A
Types of mulches and their effect on soil.
Garcia, E.
Shreveport : American Rose Society; 1987.
American rose annual. p. 25-28. ill; 1987.

Language: English

Descriptors: Rosa; Mulches; Organic matter in soil

190 NAL Call No: 450 P696
Uptake of organic matter by the roots of sweet potato: analysis of the delta 14C value of plants.
Okada, K.; Kumura, A.
Dordrecht : Martinus Nijhoff; 1986.
Plant and soil v. 91 (2): p. 209-219. ill; 1986. Includes 32 references.

Language: English

Descriptors: Ipomoea batatas; Roots; Organic matter in soil; Uptake

191 NAL Call No: S590.S65
Use of organic waste materials for soil structurization and crop production initial field experiment.
Gabriels, D.
Cremlingen-Destedt, W. Ger. : CATENA Verlag; 1988 Mar.
Soil technology v. 1 (1): p. 89-92. ill; 1988 Mar. Includes references.

Language: English

Descriptors: Organic matter in soil; Paper mill sludge; Bark; Kitchen waste; Waste utilization; Beta vulgaris; Chemical constituents of plants; Heavy metals; Field experimentation

192 NAL Call No: QH540.I84
Use of the cotton strip assay to detect potential differences in soil organic matter decomposition in forests subjected to thinning.
Howson, G.
Cumbria : Institute of Terrestrial Ecology; 1988.
ITE symposium (24): p. 94-98; 1988. In the series analytic : Cotton Strip Assay--An Index of Decomposition in Soils / edited by A.F. Harrison, P.M. Latter and D.W.H. Walton. Symposium held October 1985, Grange-over-Sands, Cumbria, UK. Includes references.

Language: English

Descriptors: Cotton; Assays; Decomposition; Forest soils; Thinning; Organic matter in soil

193 NAL Call No: SB379.A9A9
Using organic supplements to enhance fungi control.
Borst, G.
Fallbrook, Calif. : Rancher Publications; 1986 Jan.
California grower v. 10 (1): p. 36, 40, 43; 1986 Jan. Includes references.

Language: English

Descriptors: Persea americana; Root rots; Phytophthora cinnamomi; Disease control; Biological control; Organic matter in soil

194 NAL Call No: S605.5.I45 1984
Utilization of farmyard manure and composted farmyard manure "A manuring strategy".
Ott, P.
Witzenhausen : Verlagsgruppe Witzenhausen; 1986.
The importance of biological agriculture in a world of diminishing resources : proc of the 5th IFOAM Int Scientific Conference at the Univ of Kassel (Germany), Aug 27-30, 1984 / H. Vogtmann, E. Boehncke, I. Fricke, eds. p. 61-73; 1986. Includes references.

Language: English

Descriptors: Switzerland; Zea mays; Triticum; Spring wheat; Rotations; Manures; Composts; Organic farming; Agronomic characteristics; Organic matter in soil; Leaching; Nitrates; Crop yield; Yield response functions

195 NAL Call No: 60.19 B773
The utilization of N fertilizer, applied to perennial ryegrass/white clover pasture growing on a humus iron podzol in N.E. Scotland.
Rangeley, A.
Oxford : Blackwell Scientific Publications; 1988 Dec.
Grass and forage science : the journal of the British Grassland Society v. 43 (4): p. 363-369; 1988 Dec. Includes references.

Language: English

Descriptors: Scotland; Lolium perenne; Trifolium repens; Pastures; Humus; Iron podzols; Nitrogen fertilizers; Fertilizer application; Fertilizer requirement determinatio; Yield response functions

196 NAL Call No: S1.S68
Value of green manure in producing fertility of dark chestnut soil along the Volga under irrigated conditions.
Kormilitsyn, V.F.
New York, N.Y. : Allerton Press; 1988.
Soviet agricultural sciences (10): p. 30-33; 1988. Translated from: Vsesoiuznaia akademiia sel'skokhoziaistvennykh nauk, Doklady, (10), 1988, p. 21-24. (20 AK1). Includes references.

Language: English; Russian

Descriptors: Dark chestnut soils; Irrigated soils; Green manures; Soil fertility; Humus; Organic nitrogen compounds; Organic fertilizers; Nitrogen mineralization; Nitrogen content

197 NAL Call No: 64.9 C33
Vliv ruzneho kypreni pudy na jeji vlastnosti a vynosy ozime psenice v oblasti karpatskeho flyse [Influence of soil loosening on its properties and on the yield of winter wheat in the Carpathan Flysch region].
Jurencak, J.

Praha : Ustav; 1986 May.
Rostlinna vyroba - Ceskoslovenska akademie zemedelska, Ustav vedeckotechnickych informaci pro zemedelstvi v. 32 (5): p. 481-491; 1986 May. Includes references.

Language: Czech

Descriptors: Czechoslovakia; Mountain areas; Soil treatments; Loosening; Soil pHysics; Winter wheat; Humus; Crop yield; Tillage

198 NAL Call No: 56.8 P343
Vorkommen und Ernahrung der Milbencohors Uropodina (Schildkrotenmilben) sowie ihre Eignung als Indikatoren in Agrookosystemen [Habitats and nutrition of the cohors Uropodina (Acari) (Turtlemites) and their usefulness as indicators in agroecosystems].
Karg, W.
Jena, E. Ger. : Gustav Fischer; 1986.
Pedobiologia v. 29 (4): p. 285-295. ill; 1986. Includes references.

Language: German (Summary in English)

Descriptors: Carnivores; Habitats; Foods; Organic matter in soil; Decomposition; Herbivores; Plant pests

199 NAL Call No: SD1.B43
Wirkung einer NPK-Dungung auf Bodenmikroorganismen und Stoffumsatz im Wassereinzugsgebiet Wernersbach [Effect of NPK fertilization on soil microorganisms and conversion of nitrogenous and organic substances in the Wernersbach catchment area].
Mai, H.; Fiedler, H.J.
Berlin, E. Ger. : Akademie-Verlag; 1986.
Beitrage fur die Forstwirtschaft v. 20 (2): p. 74-81; 1986. Includes 8 references.

Language: German

Descriptors: German democratic republic; Watersheds; NPK fertilizers; Soil fauna; Picea; Soil chemistry; Organic matter in soil; Nitrogenous compounds

200 NAL Call No: 500 AM322A
World agriculture and soil erosion: erosion threatens world food production.
Pimentel, D.; Allen, J.; Beers, A.; Guinand, L.; Linder R.; McLaughlin, P.; Meer, B.; Musonda, D.; Perdue, D.; Poisson, S.
Washington, D.C. : The Institute; 1987 Apr.
BioScience - American Institute of Biological Sciences v. 37 (4): p. 277-283; 1987 Apr. Includes references.

Language: English

Descriptors: Agricultural land; Erosion; Soil salinization; Waterlogging; Crop production; Food supplies; Soil surveys; Soil and water conservation; Organic matter in soil

201 NAL Call No: S7.A755
Zur Methodik der Bodenprobenahme fur die Erfassung von Bodenfruchtbarkeitskennziffern auf Produktionsschlagen der BG 1 [Methodology of soil sampling for recording soil fertility parameters in production fields of soil group 1].
Obenauf, S.; Seeboldt, M.
lin : Akademie-Verlag; 1986.
Archiv fur Acker- und Pflanzenbau und Bodenkunde; Archives of agronomy and soil science v. 30 (3): p. 123-129. ill; 1986. Includes 8 references.

Language: German

Descriptors: Soil fertility; Soil testing; Soil pH; Organic matter in soil; Topsoil; Sandy soils

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